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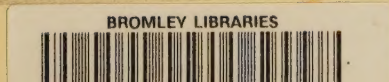
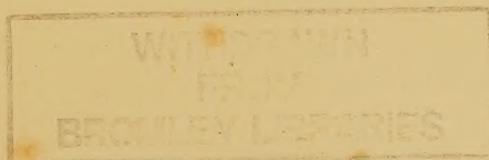
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PRINT SOCIETY PUBLICATIONS

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HOW TO DISTINGUISH PRINTS

WRITTEN AND ILLUSTRATED BY
MEMBERS OF THE PRINT SOCIETY

AND EDITED BY
HESKETH HUBBARD

R.O.I., R.B.A., A.R.W.A.
(Founder of the Print Society)



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No. I ON MAKING AND COLLECTING ETCHINGS

A Handbook for Etchers, Students and Collectors, written by Members of The Print Society, collected and Edited by E. HESKETH HUBBARD, R.O.I., R.B.A., A.R.W.A.

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1923

ON MAKING AND COLLECTING ETCHINGS
(Second Edition)

No. II 66 ETCHINGS

Being full-page reproductions of Etchings, Drypoints, Aquatints and Mezzotints and a few reproductions of Wood-Block Prints and Lithographs by Members of The Print Society, brought together, selected and Edited by E. HESKETH HUBBARD, R.O.I., R.B.A., A.R.W.A., with an introduction by KINETON PARKES.

1926

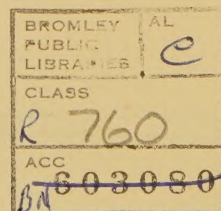
No. III HOW TO DISTINGUISH PRINTS

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EDITORIAL NOTE

THE interest in prints is increasing rapidly, and the number of collectors grows proportionately. It is perhaps time more scientific methods of classification and identification of prints were attempted. To know a woodcut from an etching, or a line engraving from a mezzotint, presents little or no difficulties even to the novice. But to appreciate the difference between a spirit and dust ground aquatint, or a chalk lithograph and sandgrain etching, is an achievement not too easily acquired.

To distinguish prints it is necessary both to handle a great many and to know at least a little about the different means of print making.

The first chapter in this book is a short history of the invention of methods used in producing prints. It must not be read as a history of print making, which is a subject already ably treated many times. Thus it happens that many great names in the chronicle of engraving are dismissed in a few words, or others do not occur at all, because they only perfected processes invented by other, often obscure or inferior, artists. At the first mention of an artist's name the dates of his period are given in brackets.

In writing this historical note I have been struck by the number who claim, unwittingly or otherwise, the invention of the same process of print making, and how impossible it is to give with precision the date of the discovery of many methods. There is still a great deal of research to do.

Next in this book will be found notes, by artists who practise the ways they describe, on making prints by sixteen of the most commonly used methods. In the ordinary edition of this book these notes are illustrated with a facsimile reproduction of a print produced by the process and in the edition de luxe by original artists' proofs. In the case of monochrome prints, a microphotograph of part of the plate or block, and the corresponding part of a proof therefrom, is

given. These microphotographs reveal the grain and quality of the different kinds of prints in a way that pages of descriptive letterpress could not do. Miniature progressive proofs of the colour prints show how the final proof is built up of several superimposed printings. All these prints have been done specially for this publication.

Those who would study the subject more deeply will find the brief bibliographies in each section useful. They are purposely limited to books in English, and the lists are kept as brief as possible. For a fuller bibliography on print-making and collecting I would refer readers to the Print Society's first publication.*

In the glossarial index at the end of this book I have endeavoured to explain briefly the various terms in most general use amongst print-makers and collectors, and here the amateur will find explanations of the various "states" in which prints appear and other expressions he may encounter. I have also added a short list of the principal terms in French and German, as these may be handy in studying the catalogues of foreign print-sellers and collections.

All prints fall into the three main divisions of *relievo*, *intaglio* and *planographic* processes (see page 18). In distinguishing a print the collector has first to decide to which division the print under examination belongs. This can be determined by the finger or the magnifying glass. If, on passing the finger lightly over the printed surface, it is felt that the ink stands up in relief from the paper and there is a plate-mark, then the print is an *intaglio* print. If the inked-lines are sunk into the paper it is a relief print. Another method is to examine the back of a print. If the printed lines are indented the print is an *intaglio*; if embossed, a *relievo*. If the ink and paper are on a level it is either a *relievo* or *planographic* print. The finger test should only be applied to the front of a print in the absence of a magnifying glass. It does not improve a print to handle its printed surface.

Planographic prints are produced by lithography (see page 95 *et seq.*), and may have the appearance of a wash, pen, brush, pencil or chalk

* *On Making and Collecting Etchings*

drawing. It is possible a planographic print, produced by a brush or pen, might, at first glance, be mistaken for a woodcut or wood-engraving, but examination with the magnifying glass would reveal the lack of tooling, and show that the lithograph so produced had been drawn in black ink with a brush or pen on a white ground, whereas in a woodcut or wood-engraving the whites are drawn with the tool on a dark foundation.

A chalk lithograph might be confused with a soft ground etching, but in the latter the ink would be found to stand up in relief and there would be a pronounced plate-mark.

Having decided, by the finger or glass test, or by examining the back of the print, whether it is a relieve, intaglio or planographic print, the collector has then to determine its subdivision. It is in this that I think and hope the microphotographs and notes in this book will be of assistance to him.

Conscious that no technical work is free from errors or omissions, only a small edition of this book is being printed. We have tried to do our share conscientiously, and now hope our readers will do theirs by calling our attention to errors and serious omissions. Only in this way, if there is a call for a second edition, may we hope to make it more complete, more useful and better in every way.

HESKETH HUBBARD.

Woodgreen Common,
Salisbury.
October, 1925.

A NOTE ON THE INVENTION OF METHODS OF PRINT MAKING

By HESKETH HUBBARD, R.O.I., R.B.A., A.R.W.A.

THERE are three main processes by which prints are made—relievo, intaglio and planographic. Relievo prints find their origin in the work of the wood-carver; intaglio in the work of the goldsmith and armourer, whilst planographic prints, like the lithograph, may be said to have their origin in the laboratory of the chemist.

In *relievo* processes the lines and masses that are to print dark stand up in relief on the block or plate from which the print is to be pulled, the white spaces or “ditches” between the dark lines of the design being removed. Relievo blocks and plates are inked by a roller or brush and are printed in an ordinary letterpress printing press with direct downward pressure. It is thought that the earliest letterpress printing presses were wine presses converted for the purpose.

In *intaglio* processes the lines and masses that are to print dark are incised or sunk into the metal or wood surface from which the print is to be pulled, the white spaces between the dark lines standing up in relief. Intaglio blocks and plates are inked by a dabber, or pad of soft material, charged with a heavy ink which is forced into the incised lines. Afterwards the plate is wiped carefully so that the ink remains in the lines and yet leaves the surface of the plate clean. Intaglio plates are printed in a copperplate printing press which in design resembles a household mangle. The paper on which the proof is to be printed is placed on the inked plate: blankets, which act as a cushion, are put over the plate and paper, and the whole passed between the rollers of the press, the inked surface of the plate is forced into the engraved lines and thus picks up the ink.

In the *planographic* process of lithography the design that is to print from the stone or metal plate is neither sunk nor does it stand up in relief. The printing surface is uniformly flat, hence the term planographic. The design is drawn with a greasy chalk, or similar fatty substance, which lacks affinity with water, the chemical effect

of which is increased by a weak solution of acid being applied to the stone. The affinity of the drawn lines for fatty substances is still further increased by the application of a weak solution of acid to the stone ; this also adds to the resistance of those portions of the stone not drawn upon to greasy substances. Gum arabic is also used to increase these properties. The stone is then damped with water and rolled up with ink, which only adheres to the greasy lines of the design.

Planographic prints are pulled in a lithographic press, in which the printing surface and the paper pass under a bar of wood, which scrapes off the print.

THE WOODCUT

The earliest form of print making was the relieve process of woodcutting, the only tool used being the knife. As far back as A.D. 175, the text of the Chinese classics was cut on tablets and, it is said, impressions were taken from them. Printing from wooden blocks dates back to the sixth century in China, but it was not common till the tenth. In Japan the earliest block printing was between the years A.D. 764-770. These early Oriental ventures in block printing were usually letterpress cut on a single block, not pictures. The Chinese, Egyptians and Assyrians used carved blocks of stone, wood and other materials, from which they printed designs on textiles. The earliest dated cut (Chinese), I believe, bears the date A.D. 868.

It is doubtful whether woodcutting was introduced to Europe from the East or rediscovered. In mediæval times (twelfth and following centuries) the Rhenish monasteries were the chief workshops in which ornamental stamps and blocks were cut. These were used to impress designs on textiles, vellum and other materials, and initial letters were stamped on manuscripts from them.

Paper, we must remember, was not procurable in any quantity before 1400, and it is not till after that date that prints, as we understand them, appear in Europe.

It used to be thought that playing cards were the earliest woodcut pictures in Europe; but the earliest cards were drawn by hand, and it was not until the fifteenth century that they were printed.

Early in that century block printing was used extensively in Germany, Holland and Flanders, either as single sheets (*briefs*), with

a picture (*print* or *prent*), or as whole sheets (two leaves), a number of which folded and bound together formed a *blockbook*.

The earliest dated European woodcut is, I believe, that dated "May" of 1418, found at Malines, and now in the Brussels Royal Library; the famous "S. Christopher," which usually is considered the earliest, being 1423. Delaborde endeavours to prove that two cuts were printed in 1406. With the exception of certain early artists whose identity is uncertain, most of the following years, until the advent of Albrecht Dürer (1471-1528), were devoted to the production of xylo-chirographs (wood-handwritten books), or semi-blockbooks in which the illustrations were from wood-blocks and the letterpress added in manuscript; or manuscripts with woodcut illustrations pasted on to them. These were a natural transition from the illuminated manuscript to the illustrated book.

In the middle of the fifteenth century Bernard Milnet invented in France a method of drilling holes in a block which, of course, printed white on black, an early form of white stippling. The process, which was known as *criblé* (drilled), soon fell into disuse, but years afterwards was revived for astronomical plates, for which purpose it was most suitable. *Criblé* might be regarded as the forerunner of Bewick's white line, of which I shall have more to say.

In 1486 a book by Breydendack—*Voyage to the Holy Land*—which is remarkable for some woodcut illustrations by Erhard Renwick, of Utrecht, shows what is believed to be the first use of cross-hatching for shading.

If we leave aside the illustrated books and single sheet monochrome woodcut prints produced in Japan in the seventeenth century, nothing new, except increased facility, was added to the technical development of the woodcut until Thomas Bewick (1753-1828). Before the latter half of the eighteenth century wood-cutters used soft woods, such as pear, for their blocks, and had cut their designs "on the plank," that is, with the grain of the wood. Bewick was the first to use boxwood, a hard wood, across the grain. This made it possible to use the graver in place of the knife as the cutting tool. By doing this, about 1789, Bewick arrived at the "white line" which revolutionised the art of woodcutting. Before the wood-cutter had worked with a

black line on a white ground, a natural enough method when a pen and paper are one's tools, but a laborious method when one had to cut away all the white interstices between the blacks with a knife. Bewick's discovery, foreshadowed over 300 years before by Milnet and his *criblé* method, made it possible to work with white on black, which meant that the line could be obtained with a single stroke of a graver and had not to be cut round with a knife. Cross-hatching became an easy, natural method.

In the first half of the nineteenth century the great illustrated weekly papers started in this country, and led to the formation of the school of reproductive wood-engravers that culminated in the artists of the '60's. Charles Webb invented the "compound block" in 1860, by means of which a large wood block could be divided into a number of pieces when the design had been drawn on it and distributed amongst several engravers to cut; a procedure most necessary when a large illustration of topical interest was wanted quickly. Charpentier and others, in the same century, experimented with "blind printing," that is, the use of an uninked relief block that merely embossed the paper with its engraved design.

The introduction of photographic methods of reproducing drawings practically killed reproductive wood-engraving. But the art of cutting original designs was carried on in the '90's by Charles Shannon, Charles Ricketts and others, and is becoming increasingly popular with contemporary artists.

COLOUR PRINTS (Relief Processes)

From the very earliest days of the woodcut attempts were made to meet the popular demand for colour by colouring the cuts by hand with water-colour. It was about fifty years after the invention of woodcutting in Europe that experiments were made in printing cuts in colour instead of colouring them by hand. This was done by the use of two or more blocks printed one over the other, a different block being used for each colour or tone used. Oil colour was the pigment generally employed. In 1457 Gutenberg and Fuß published a Psalter with initial letters printed in two colours, red and blue, from types made in two pieces. In England this method was

patented by Solomon Henry in 1780 and again by Sir William Congreve in 1819.

Erhard Ratdolf (an Augsburg printer) was the first to use colour-printed woodcuts as book illustrations. This was between the years 1476 and 1486. Hans Burgkmair I (1473-1531) worked in his workshop. In 1492 Ratdolf published the Brixen Missal, which contained a cut by Burgkmair, printed in three colours.

I believe Lucas Cranach (1472-1553) produced a single sheet colour woodcut (as opposed to a coloured woodcut or book illustration) as early as 1507. In the following year, Burgkmair, already mentioned, was producing *chiaroscuro** (or *claro obscuro* as Kirkall called it) prints. These were woodcut prints from two or three blocks, the outline drawing being printed in black or a dark colour from one (the key block), the shadows from a second, the semi-tones from a third. Joſt de Negker, of Antwerp, collaborated with Burgkmair and cut many of his famous designs for him. Wechtlin, of Strasburg, and Hans Baldung Grün (ab. 1476-1545) also produced *chiaroscuro* prints, dated 1510.

The engraver Mair (possibly the painter Nicolaus Alexander Mair, ab. 1491-1541) produced some line engravings printed on green or grey hand-tinted paper with lights heightened with white. He has been said to be the forerunner of the *chiaroscuro* prints of Cranach and Burgkmair.

Two Dutch engravers, Hendrik Goltzius (1558-1616) and Abraham Bloemaert (1564-1657) were the first to combine *chiaroscuro* tone blocks with engraved or etched key blocks. Comte de Caylus (1692-1765) worked in the same way. This method was practised in the eighteenth century in this country by Arthur Pond (ab. 1705-1758) and Charles Knapton (1700-1760) in collaboration. The metal relief plates of William Blake (1757-1827) are dealt with in the section devoted to etching. (See page 27.)

The Chinese produced colour woodcut prints in 1670 or a little earlier. According to Japanese tradition, Idzumiya Gonshirō was the inventor of colour printing in Japan, about 1695. It is generally thought the discovery had no connection with colour printing as practised by the European *chiaroscuro* print makers.

* Camaïeu.

From 1722 onwards Elisha Kirkall [1682(?) - 1742(?)] produced mezzotints with etched outline, coloured by means of wood blocks. Usually only one colour block was employed, being printed in bistre, raw sienna or a neutral bluish green. The key plate was generally printed in black, blue-black or brown. Kirkall also produced a few three-block ordinary chiaroscuro prints.

John Baptist Jackson, in the middle of the eighteenth century, used the chiaroscuro method to print wall-papers. This work was further carried on by William Savage, author of *Practical Hints on Decorative Printing, with illustrations engraved on wood and printed in colours at the Type Press*, 1822.

In 1835 George Baxter (1804-1867) obtained a patent for a method of printing colour prints in oil from copper and wood blocks. Baxter is said to have been inspired by J. B. Jackson and William Savage, already mentioned.

Towards the close of the last century wall-paper printers experimented with the use of linoleum in place of wood blocks, a method since favoured by many contemporary colour block print makers.

LINE ENGRAVING

We have traced the descent of the great relief process of wood-engraving from the work of the wood-carver; now that we have come to the study of the history of one of the earliest intaglio processes we shall see it had its origin in the work of the goldsmith and armourer.

In the fifteenth century a popular way of ornamenting metal work was by what is known as *niello* work. The design was engraved on silver (sometimes bronze or gold). An alloy of silver, copper and lead, to the respective proportions of half, one third and one sixth, was mixed and, whilst molten, powdered sulphur was added and then allowed to cool. When cold, the mixture was finely powdered and this powdered amalgam or enamel was dusted into the engraved lines which were then heated and allowed to cool, the enamel being thus fused into the lines. The surface of the metal was then polished, leaving the black amalgam in the incised lines of the design.

To prove his work before it was finished the goldsmith engraver took a sulphur cast of the piece of niello on which he was engaged, in a matrix of fine clay. He filled up the lines of his sulphur cast with

lamp-black. Later he discovered a proof could be taken direct from the niello work on to a piece of damped paper, ink having been rubbed previously into the engraved lines of the metal. A method similar to niello, called *bidri*, was practised in India. The great practitioners in Europe were the Florentine goldsmiths. Vasari credits Maso Finiguerra (1426-1464) with being the first niellist to take proofs on paper from his plates. This, however, has been discredited.

From this it is easy to see how the metal came to be used only as a means to an end, that end being a printed design on paper. An early stimulus to line engraving was afforded by the sale of religious prints at various shrines and by the use of playing cards.

The identity of the early line engravers is uncertain, but from 1446 onwards there is dated work by men we know as "The Master of the Playing Cards" (fl. ab. 1445), "The Master of the Year 1446," "The Master of the Garden of Love" (fl. ab. 1448), "The Master E.S." (fl. ab. 1450-1470) and "The Master of the Amsterdam Cabinet" (fl. ab. 1480), all of whom seem to have been working in the Upper Rhine Provinces and Netherlands. We do not find a dated line engraving of Italian origin until 1461, about when line engravings were made in the workshops of Venice, the Emilia, Tuscany and Lombardy. The two chief original masters of line engraving, whose names are known to us, are Andrea Mantegna (1431-1506) and Antonio Pollaiuolo (1432(?) - 1498).

Letterpress printing being a relief process and line engraving an intaglio, necessitating the use of different types of printing press, line engraving did not lend itself so readily to book illustration, but in 1477 Nicolas Laurentii published an edition of Antonio Bettini's *Monte Sancto di Dio* illustrated by line engravings in conjunction with type which was possibly the first of its kind.

Mention has already been made of the coloured engravings of Mair towards the end of the fifteenth century. In 1545 the Flemish surgeon, Thomas Geminus (fl. 1524-1570), introduced copperplate engraving into England by a series of anatomical plates. William Rogers (fl. ab. 1589-1604) was the first English engraver of importance.

Hans Sebald Lautensack (ab. 1524-1563) was one of the first to combine etching with line engraving, a mixed process that

came into considerable favour in the eighteenth and nineteenth centuries.

Claude Mellan (1598-1688), the French engraver, introduced a method of shading by simply varying the strength and depth of parallel lines.

The eighteenth century engravers used machine ruling for their skies and flat tinted surfaces.

The earliest engravers in America were the engravers of bank-notes.

Engraving in pure outline had a vogue at the beginning of the last century. Its chief exponents were Carlo Lasinio (1757-1839), Giovanni Paolo Lasinio (1796-1855), Charles Pierre Joseph Normand (1765-1840), Tommaso Piroli (1750-1824), James Parker (1750-1805), and William Blake (1757-1827).

At the beginning of the nineteenth century copperplate engravings were so much in demand that the soft copper plates would not yield large enough editions to satisfy the publishers. It was then that steel was thought of as a harder substitute for copper, making a plate capable of yielding a much larger edition than copper without appreciable deterioration of impression. Many of these so-called steel engravings have an etched basis. Jean Baptiste Grateloup (1735-1817) is generally credited with being the first to engrave a steel plate in place of copper, zinc, silver, brass or iron. Between 1815 and 1880 steel was used almost exclusively for metal engraving in England. It was found it could be softened to facilitate working and afterwards hardened for printing. After 1880, when it was discovered that a copperplate could be steel-faced by an electrical deposit, steel was abandoned for engraving.

In more recent years William Strang has used a burin with the cutting point turned back or hooked so that the tool is dragged, not pushed, through the metal.

ETCHING

Just as line engraving was a development of the goldsmith's art, so etching, that other great intaglio process, was also practised by the metal chasers, armourers and gunsmiths of the fifteenth century or even earlier, for the decoration of swords, armour and other objects.

It was not until the early part of the sixteenth century, though, that a metal plate with a design etched or eaten on it by the action of acid was used to produce an impression on paper.

At the close of the fifteenth century there lived in Augsburg a family of metal workers, the Hopfers. Daniel Hopfer's (fl. 1493-1536) "Portrait of Konrad von de Rosen" is thought to have been etched about 1503-4 and he is known to have etched a good many designs as patterns for the goldsmith and sculptor. Andrea Schiavone (better known as Meldolla, 1522(?) - 1582) was also once considered the inventor of etching.

Urs Graf (b. ab. 1485-1490, d. 1529), a Swiss artist, was responsible for the earliest dated etching, 1513, but it was only two years later that Albrecht Dürer started his great career as an etcher. Dürer always etched on iron probably because, the art being derived from the armourer, the action of acid on iron was better understood than on other metals.

Lucas van Leyden (1494-1533) combined etching with engraving in his 1520 "Portrait of Maximilian." Jan (ab. 1593- af. 1641) and Esaias (ab. 1590-1630), van de Velde and Jacques Callot (1592-1635) used to strengthen their etched lines with a graver, and so produced a swelling line. At this time artists produced by etching prints that looked like engravings. From earliest times the graver and drypoint have been called in to the aid of the etcher.

A little more than a century after the invention of etching (as we understand it) Jacques Callot, already mentioned, made the great discovery that aerial perspective could be obtained in etching by biting some passages of the design longer than others. This, and the realisation by Rembrandt Harmensz van Rijn (1606-1669) of the value of leaving a thin film of ink on the plate and not clean wiping it as an engraving, was the foundation of etching as practised to-day.

In a previous section on "Colour Prints (Relief Processes)," mention has been made of the chiaroscuro prints of Goltzius and Bloemaert, who used an etched key plate with colour wood blocks, a method developed a century later by the Englishmen, Pond and Knapton.

Until the latter part of the seventeenth century plates were bitten by what is known as "damming," that is, when the design had been scratched on the grounded plate, a wall of wax was built around it on the margin, transforming the plate into a dish. The acid was then poured into this and did its work on the plate. The modern method of placing the plate into a porcelain or glass bath of acid was possibly introduced by Sebastien Leclerc (1637-1714).

In the eighteenth century Sir Robert Strange (1721-1792) and William Woollett (1735-1785) more or less founded a school of engraving on an etched basis. About the same time William Blake produced some interesting etchings in relief which he called "woodcuts on copper." He drew or wrote his design on the plate in stopping-out varnish and then bit away the white spaces between. William Giles, I believe, has experimented in our own day with metal relief plates.

Amongst modern inventions in the field of etching mention should be made of Hubert Herkomer's "Positive Process," by which he obtained a white ground on which to work.

Besides iron and copper, zinc, steel and pewter have been used for etching.

Between about 1855 and 1860 Jean Baptiste Camille Corot (1796-1875), Charles François Daubigny (1817-1878), Pierre Étienne Théodore Rousseau (1812-1867) and Jean François Millet (1814-1875) produced some glass prints, which, for want of better classification, should be mentioned as etchings. A ground was deposited on a sheet of glass, the design scratched on this, as in etching, with a needle. The glass plate was then printed as a photographic plate on to a sensitized piece of paper, which was afterwards "fixed" chemically.

Félix Bracquemond also used to draw on an ungrounded plate with pen and ink, then ground it in the usual way and soaked it for a quarter of an hour in water. On rubbing the plate softly with flannel the ground came away from the inked portions and the etching was proceeded with in the usual way.

Steel-facing was introduced in 1880.

DRYPOINT

Drypoint, which is a form of engraving, not etching, has been used from the earliest times in conjunction with both processes to enrich them. Dürer did some pure drypoints dated 1512. After his day no other pure drypoints seem to have been made until Rembrandt. At the end of the eighteenth century Raphael Morghen (1758-1833) used drypoint as a preliminary to engraving and Sir David Wilkie (1785-1841) and Andrew Geddes (1783-1844) revived pure drypoint. The invention in 1880 of steel-facing gave an impetus to the practice of this medium.

Ruby and diamond points have been used in place of the ordinary steel point and gelatine sheets instead of metal plates. The latter process is known as gelatine drypoint.

SOFT-GROUND ETCHING

Though none of his soft-ground etchings is known to exist, Dietrich Meyer (1572-1658) is generally credited with the invention of the process; but there is some confusion as to whether the soft-ground he used was not merely the etching ground in common use to-day as opposed to the harder ground used up to the time of Rembrandt, and not soft ground as we understand it, which is ordinary etching ground mixed with an equal proportion of tallow. Meyer's plates may have been pure etchings made with a needle point, not soft-ground etchings made with a pencil point, the prints of which have the appearance of chalk or pencil drawings. Even if Meyer did invent pure soft-ground no other artists seem to have availed themselves of the invention for over a hundred years. Some of the earliest soft-ground etchings extant are those made by Thomas Gainsborough (1727-1788). Though not dated they belong probably to the 1760's.

Johann Heinrich, the younger (1742-1808), invented a process similar in result to soft-ground etching in which powdered crystalline tartaric acid was used.

The use of soft-ground in conjunction with stipple, aquatint, mezzotint and other processes is dealt with later. (See page 30)

COLOUR PRINTS (Intaglio Processes)

Besides the chiaroscuro and other methods of producing colour prints from wood and metal reliefs, colour prints have been obtained from metal intaglio plates.

Hercules Seghers (ab. 1590-ab. 1645) has the reputation of being the first artist to make experiments in the combination of colour with copperplate prints. He appears only to have used one plate (key plate), which he printed in monochrome, but tinted his paper or canvas (he often printed on canvas) before or after printing. These are really coloured prints rather than colour prints.

Joannes Teyler (fl. 1650-1700) printed some prints in colour from line engravings (one plate). This was between 1670 and 1680. About 1700 Peter Schenck (1645-ab. 1715) was working in the same direction.

The invention of the three colour process of plate-printing dates from 1711, when Jacob Christoph Le Blon (1667-1741) printed from three plates, one for each primary colour. The plates were mezzotinted. Commercially the venture was a failure. Jacques Fabien Gautier d'Agoty carried on the tradition in France. Sometimes he obtained his tones by dotting in place of mezzotint. He claimed to have invented Le Blon's method, but this was not so. He was, however, the first to use a fourth (black) plate.

Gilles Demarteau (1722-1776) sometimes printed his crayon prints in colours. Louis Bonnet (1735 (1743?) - 1793) used several plates for printing his crayon or pastel prints in colour. He was one of the few artists to print white on toned paper.

Ploos van Amstel (1726-1798) produced some early colour print reproductions of drawings, for which he used aquatint, roulette and other methods.

In 1769 Captain William Baillie (1723-1810), an amateur, invented a process of multi-printing in colour. Seven years later (1776) Robert Laurie (1755(?) - 1836) devised a method of printing in colour from a single plate. William Wynne Ryland (1732 (1738?) - 1783) and Francesco Bartolozzi (1728-1813) printed their stipple engravings in colour. The English stipple engravers, when they printed in colour, seem to have printed from a single plate inked with rag stumps (*à la poupée*).

William Blake used yet another method of printing colour prints. He printed his design from an etched or aquatinted key plate; painted, in proper register, a card in tempera and, whilst wet, rubbed the colour from it on to his proof. The result was a fascinating mottled quality sometimes thick in impasto.

Mention has already been made, in the section devoted to "Colour Prints (Relief Processes)," to the colour print method for which George Baxter obtained a patent in 1835.

François Janinet (1752-1813) and Philibert Louis Debucourt (1755-1832) carried on in France the methods of Jean Baptiste Le Prince (1734-1781), and printed colour prints from aquatinted colour plates with an aquatinted key.

In 1851 Dr. F. Bransour, of Sheffield, introduced a combined printing and embossing process which he called "Nature Printing." He made a mould in gutta-percha from a fresh fern or similar natural object that could be placed on a flat surface and from this obtained an electrotpe plate that was used to print from, the plate being correctly coloured by hand before impressing. This was hardly an artistic process.

Modern intaglio colour printers generally use a soft-ground key plate and aquatinted colour plates.

MEZZOTINT OR MEZZOTINTO

The earliest intaglio tone process was mezzotint, or mezzotinto as it was called. It was in 1642 that Ludwig von Siegen (1609-af. 1676), a soldier in the service of William VI, Landgrave of Hesse-Cassel, invented the process at Amsterdam. He was an amateur artist and his early work appears to have been a direct drawing on metal with a roulette, which he probably augmented with a graver used in the stipple manner and an instrument known as the "engine," the exact nature of which has caused considerable speculation. Possibly it was a finely grooved roller. In some of his work he may have used a rough file or even bitten passages with acid. No doubt the stipple work of Giulio Campagnola (ab. 1482-af. 1514) and Jan Lutma (1609 (or ab. 1624?)-1685) inspired him. The roulette had been used before. Unlike the modern mezzotinter, von Siegen worked from light to dark and used the scraper sparingly.

Ten years after its invention, in 1652, von Siegen explained the process to Prince Rupert (1619-1682), who took the credit of the invention and enjoyed it until recently. Prince Rupert reversed the method of von Siegen and worked from dark to light; since his day this has been the universal practice of mezzotinters. Allart van Everdingen (1621-1675) was another early practitioner of this medium. These early workers in mezzotint laid their ground by the aid of different kinds of roulettes and files, sometimes strengthening the plate with etching, drypoint or even a sort of aquatint. The rocking tool now used for laying a mezzotint ground was the invention of the Dutch painter and engraver, Abraham Blooteling (1640-1690), but the tool was not used to any extent by engravers till some years after its invention. Blooteling was the first to use the scraper to any extent and Wallerant Vaillant (1623-1677) one of the first to use the roller.

Prince Rupert introduced mezzotint into England and William Sherwin (fl. 1669-1714) carried the process to such perfection that England became the home of mezzotinting, and it was spoken of as "*la manière Anglaise*." Sherwin, like von Siegen and Everdingen, used a half-round file to lay his mezzotint ground and Edial, a smith, "a hand tool resembling a shoemaker's cutting board-knife, with a fine crenelling on the edge." George White (ab. 1671-1732) is said to be the first to combine etching with mezzotint, a practice afterwards adopted by the great mezzotinters of the eighteenth and nineteenth centuries such as Joseph Mallord William Turner (1775-1851), Samuel William Reynolds (1773-1835), David Lucas (1802-1881) and Charles Turner (1774-1857), which last mixed aquatint and mezzotint.

Richard Earlom (1743-1822), William Walker (1791-1867) and Samuel Cousins (1801-1887) were among the earliest artists to combine stipple and mezzotint, the last using a heavy roulette.

Ignaz Unterberger (1748(?)-1797) was the first to attempt to imitate a mezzotint ground by the complicated interlacement of lines by means of a ruling machine.

The mezzotints, coloured by woodblocks, that Elisha Kirkall was producing in 1722 have been mentioned before. "Colour Prints (Relief Processes)."

The son of William Say (1768-1834) claimed that his father was the first to scrape a steel mezzotint so as to yield larger editions ; but there is some doubt about this. Peter Pelham (ab. 1684-1751) has the credit of introducing mezzotint to America in 1727.

Richard Houston (ab. 1721-1775) was the first artist to discover that the effect of brushwork could be obtained with a scraper.

Pure mezzotint ceased to be practised in 1840, but was revived about 1880, when steel-facing made possible the use of copper for large editions.

AQUATINT, AQUATINTO, AQUATINTA

Some sort of spirit ground aquatint was used occasionally by the already mentioned William Sherwin in conjunction with mezzotint, and by a goldsmith and map engraver of Haarlem, Jan van de Velde (fl. 1630-af. 1642), in conjunction with line engraving about 1642, but dust ground aquatint was the discovery, in 1768, of Jean Baptiste Le Prince (1734-1781). Corneilus Ploos van Amstel, already mentioned, a young Swede, Per Gustaf Floding (1731-1791) and Louis Bonnet (see page 29) also claim to have invented this process or one similar. Le Prince first covered his plate with an etching ground. This ground was then moved by dissolution except at the places which were to appear white in the impression. The unprotected portions of the plate were then dusted over with finely powdered asphaltum or resin, after which the plate was bitten and stopped out in the usual way. He used a dust box for the distribution of his resin.

Peter Perez Burdett (or Burdet), of Liverpool, produced some aquatints between 1771 and 1774 and appears to have been the first to use the method in England. He sold the idea to the Hon. Charles Greville for £40, and Greville initiated Paul Sandby (1725-1809) into the method.

Sandby became one of the best practitioners of the method; the invention of spirit ground has been attributed to him. As already shown, some such process had been used by Sherwin and Jan van de Velde more than a hundred years before, but it does not seem to have found favour with artists during that long lapse of time until Sandby possibly rediscovered the process in 1776. To him we owe the name "Aquatinta."

Stapart (fl. 1773) invented in Paris in 1773 a method of laying an aquatint ground by using an ordinary etching ground and whilst still warm sprinkling sea salt on it. When dry, the plate was washed in water and the salt dissolved.

As already mentioned under "Colour Prints (Intaglio Processes)," François Janinet was the first to print aquatints in colour. He used several plates, sometimes as many as seven or eight, and did not hesitate to strengthen his work with the roulette. Philibert Louis Debucourt (see page 30) was one of the best earliest aquatintists in colour. The aquatints of Thomas Rowlandson (1756-1827) were generally coloured by hand.

Sprayed ground etching, which has the appearance of aquatint, has found some favour in recent years amongst a few American and British artists. It will not yield as many proofs as an ordinary aquatint.

MONOTYPE

The first monotype of which there is any record was made by Giovanni Benedetto Castiglione (1616-1670). That great experimentalist, William Blake, produced some and Hubert Herkomer was responsible for several.

DOT METHODS

PUNCH ENGRAVING (*OPUS MALLEI*), FLICK, CRAYON AND STIPPLE METHODS

In the history of print making there have been many processes invented whereby the design is reproduced by a series of sunk dots in place of lines.

Dots and flicks in conjunction with line have appeared from the earliest days of engraving, dotted work being used by "The Master of the Crayfish," Marcantonio Raimondi (ab. 1480-ab. 1530), the artists of the mid-sixteenth century Mantuan School, Georg Pencz (ab. 1500-1550), José Ribera (1588-1652) and others.

Punch engraving, by means of metal punches on metal, dates from the days of the early goldsmiths, who used it as decoration in the middle ages (*opus interrasile* and *opus punctile*). One of the earliest examples is an "Annunciation" by Buonincontro da Reggio in the British Museum (second half of fifteenth century).

About 1589 Johann Kellerdaller (fl. 1589), one of the famous family of Dresden goldsmiths, engraved a few plates entirely in dots. In the work of these craftsmen the dots printed white on black by a relief process. About 1600 Franz Aspruck (fl. 1590-1603) and Paul Flindt (fl. 1590-1620) produced some dotted plates by an intaglio process, in which the dots represented the black portions of the design. Later Jan Lutma II made some hammered engravings which he called his *opus mallei*, and which were, perhaps, more satisfactory than any early dotted prints. He seems to have used not only a single pointed tool but a punch with a grained head, which gave the quality of chalk for semi-tones. He used a lightly engraved or dry-pointed line in which to sketch the design. He must, too, have employed a small blunted chisel-like tool, which gave a dash and flick effect. Giulio Campagnola and Ottavio Leoni (ab. 1576-af. 1628) also practised this method.

No further developments seem to have taken place along these lines until about 1740, when Jean Charles François (1717-1769) claims to have invented the crayon method in which an irregular roulette is used. Gilles Demarteau and Louis Bonnet have also been credited with the invention of the process. The former, in 1746, was printing in colour by this method. The latter used several plates for his pastel or crayon method, using a different colour on each. As already mentioned under "Colour Prints (Intaglio Processes)," he is the only artist of that period to use white pigment to obtain high lights on a toned paper.

No precise date can be given to the introduction of stipple engraving, but, anyway, it succeeded the crayon manner, of which it is a refinement. Most of the best stipple work was produced in England, where it was introduced by William Wynne Ryland (see page 29).

Francesco Bartolozzi (1728-1813), the greatest exponent of stipple engraving, sometimes used an etched line with his stipple. John Jones (ab. 1745-1797), William Ward (1766-1826) and John Raphael Smith (1752-1812) combined stipple and crayon methods, the last also combining stipple, aquatint and etching. Samuel Cousins (1801-1887) used mezzotint with stipple.

Jean Baptiste Grateloup (1735-1817) used a grounded plate on which he worked in dots with a needle point and sometimes, perhaps, with a very fine roulette. When this had been bitten he strengthened it with drypoint dots and used the scraper to reduce his darks. If, as has been said, he worked on steel, he is the first artist so to do. Johann Jakob Bylaert (1734-1809) also produced some prints by a method of dotting with a point, something between the crayon method (in which a roulette is used) and stipple.

Stipple engraving ceased to flourish after 1810. Heinrich Wolff, a modern German artist, has engraved some plates entirely with the roulette.

LITHOGRAPHY

The last great process, in point of time, is lithography, which was discovered, more or less by accident, by Alvis Senefelder (1771-1834) in 1796. What Senefelder discovered at that date was not the planographic process we know to-day as lithography, but rather stone block printing from a slightly relief surface. It was not till a few years later, about 1800, that he gave us the planographic process of lithography as we understand and practise it. Senefelder foresaw nearly all the possibilities of his invention, and so little remained for others to discover or invent. Zinc plates in place of stone were used experimentally quite early in the history of the process. When aluminium became a commercial product in the latter half of the nineteenth century, experiments were carried out by lithographers in the establishment of Herr. J. Scholz at Mainz which resulted in the process of obtaining lithographic impressions from an aluminium plate. This we know as "Algraphy."

In 1868 the firm of Maclure, Macdonald and Company introduced grained lithographic drawing paper, not so much an invention as an improvement or development of paper and canvas which had been used before with somewhat indifferent results. The introduction of a similar grained transfer paper did away with the necessity of drawing direct on to the stone and made the process more practicable to artists. We find men such as T. and T. R. Way, James Abbott McNeill Whistler (1834-1903), Alphonse Legros, Frank Short, Charles Shannon, Fantin Latour and others delighting in its use.

RELIEVO PROCESSES

WOODCUTTING
WOOD ENGRAVING
LINOLEUM CUTTING
COLOUR BLOCK CUTTING
AND PRINTING

WOODCUTTING



John F. Greenwood

WOODCUTTING

By JOHN F. GREENWOOD, A.R.E.

CHARACTERISTICS

The process of print making from wood blocks, cut so that the design stands in relief, is the earliest and the simplest method of print production, but, more than has been the case with any other process, its own inherent character, which is very pronounced, has been suppressed.

An impression taken from a block before cutting would give a solid rectangle. If the surface be cut away in parts, in lines or shapes, such incisions would appear white in the print. This, white out of darkness, is the natural language of the craft, but it has only learned it in comparatively recent times; it was originally and frequently still is, required to attempt the speech of some other technique, that of the pen or brush. The more skilful the cutting in such work the greater the loss of character and the interest of the print belongs less to it as a woodcut than to the drawing which it reproduces.

HOW MADE

The block is of soft wood, sycamore, cherry, maple or white holly, about $\frac{7}{8}$ " thick, sawn plankwise and planed smooth.

As the process is a development of the design by an elimination of black the most logical way is to start from a block which has its surface blackened; the cuts will then appear light on the black as they will ultimately do in the print.

The cutting is done with a knife and gouges. The knife is held like a pen and gives a line V-shaped in section which is made by two oblique cuts. The gouges are like those used by a wood-carver, but are shortened to about 5" and have small knob handles like the gravers. The knife is used more in reproductive cutting where a pre-designed line has to be followed, but in original work it may be dispensed with; the cut shown here was done with gouges only.

WOODCUTTING

NOTES ON THE MICROPHOTOGRAPHS

The microphotographs show an enlargement of the window which is to the left hand of the footway in the accompanying print of "The Cobbled Yard," and the corresponding part of the block from which the print was made. (Some difficulty may arise from the cuts in the photograph of the block showing, as they do in some lights, as though they were in relief. They are, of course, incisions and so escape the ink when the roller is passed over the surface of the block.)

The wood used was sycamore, the grain of which can be well seen in the microphotograph of the block. Sycamore is a very soft wood and, as it is inclined to tear when it is cut in the direction of the grain, it is better to work across it when a choice is possible; in the part enlarged, however, it happens that horizontal cuts predominate.

The gouges were of three sizes, of which the largest one was used only in the cobbles and when there was a white space to be cleared. In the window portion the two smaller ones were used and their different widths of cut can be identified. It may also be noticed that the horizontal line of the hoodmould and two of the upright ones of the window show as double cuts in the block but only as single white lines in the print; a trial print being taken, it was found that these lines were too narrow and a second cut had to be made.

WOODCUTTING



MAGNIFICATION OF BLOCK



MAGNIFICATION OF PRINT

WOODCUTTING

NOTES ON PRINTING

The best prints are made by reverting to the methods of the first printers, that is, by rubbing. The block is laid face uppermost and the ink is applied with a dabber or, preferably, with a roller. A sheet of paper is laid face downward on this inked surface, and a light pressure from another roller, this time a clean one, causes it to adhere evenly to the block; the back of the paper is then rubbed with a burnisher.

The extent to which the rubbing may be varied locally makes this method capable of giving prints of much more subtlety than the more mechanical products of the press can have, but its somewhat laborious nature makes it less suitable if the block is a big one or if a large edition is wanted; in this case the press had better be requisitioned and the variations attempted as far as possible with "overlays."

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(Bibliography continued on page 44)

WOOD ENGRAVING



John F. Greenwood

WOOD ENGRAVING

By JOHN F. GREENWOOD, A.R.E.

CHARACTERISTICS

At the end of the eighteenth century the possibilities of the wood-block print were greatly extended by the substitution of hard wood for the softer varieties previously used and of the graver and scorper for the knife and gouge. In the hands of Bewick, to whom is due the credit of its introduction, Blake and Calvert, the natural white line was used but, later, it was degraded into a purely reproductive process, the fineness of detail of which it is capable being exploited to the uttermost in the attempted facsimile cutting of the finest of penwork. The photographic process block brought emancipation.

Like the woodcut its natural means of expression is by the white line and white mass and it can, in general, be distinguished from its ancestor by reason of the finer scale of its detail, but there is a region in which it is difficult, if not impossible, to distinguish between the two processes, between the fine cut and the coarse engraving.

HOW MADE

The block is of hard wood, usually box, cut across the grain and brought to a high degree of smoothness with the plane and scraper.

As in the woodcut it is usual to blacken or to put a semi-tone (through which the drawing may be seen) on the block before beginning to cut.

The cutting is done with gravers and scorpers similar to those used by the metal engraver; they are solid in section (not hollowed on their upper surface like the gouge), and the front cutting face is sloped backward at an angle of about 45° . They have a knob handle which is grasped in the palm of the hand, the fingers and thumb are ranged along the shaft, and the cut is produced by pushing the tool. The scorpers have rounded ends, and the graver a V-shaped point which gives a line in section like that made by the wood-cutter's knife, but in one operation instead of two.

WOOD ENGRAVING

NOTES ON THE MICROPHOTOGRAPHS

In the microphotographs we have an enlarged portion of the print of "The Beacon" showing the last bend of the road, by the smaller barn, and the same part of the block in which it was engraved.

Boxwood was used, the grain of which being perpendicular to the surface does not show in the photograph as does that in the microphotograph of the soft wood block. The wood cuts equally in any direction.

Three tools only were used in the engraving, a graver with a V-shaped point and two scorpers. Most of the cutting throughout the block was done with the graver. In the microphotograph of the block cuts of the smaller scorper can be seen in the walls and in the trees. The larger one was probably only used in the portion enlarged to clear away the white part of the road and perhaps a little in the trees, but the character of its cuts can be seen in the wall top in the foreground of the whole print. The graver line can generally be distinguished by the fineness at its beginning. Compare the graver cuts, say, on the telegraph pole with those of the scorpers.

The microphotograph again betrays the engraver; the original lines of the barn tops were found to be too thin and they had to be re-cut.

WOOD ENGRAVING



MAGNIFICATION OF BLOCK



MAGNIFICATION OF PRINT

WOOD ENGRAVING

NOTES ON PRINTING

The best prints are made by placing a piece of paper on the inked surface of the block and then applying pressure to the back of the paper with a steel or bone burnisher. This method is probably of more advantage with the engraved than with the cut block as, being finer in its detail, it is capable of taking a greater amount of the refinement which hand printing can give but, by reason of its finer cutting, it requires greater care in every particular. The best stiff proofing ink should be used, and it must be very carefully applied to the block so that the finer lines do not become clogged. The paper should be only slightly sized and may need to be damped a little by being left for a few minutes between sheets of damp blotting paper before using. "Jap" or "Indian" papers usually give the best results.

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LINOLEUM CUTTING



Hesketh Hubbard

LINOLEUM CUTTING

By HESKETH HUBBARD, R.O.I., R.B.A., A.R.W.A.

CHARACTERISTICS

A linoleum cut print resembles a woodcut print but, because of the softness of the material, it is not possible to obtain from the former a print containing such fine lines as are obtainable from a wood block. Whilst the absence of grain makes the cutting of a linoleum block easier than a wood block (on the plank), when it comes to the printing of the latter cunning use can be made sometimes of the grain of the wood to help the design, but the printer of a linoleum block is denied this.

HOW MADE

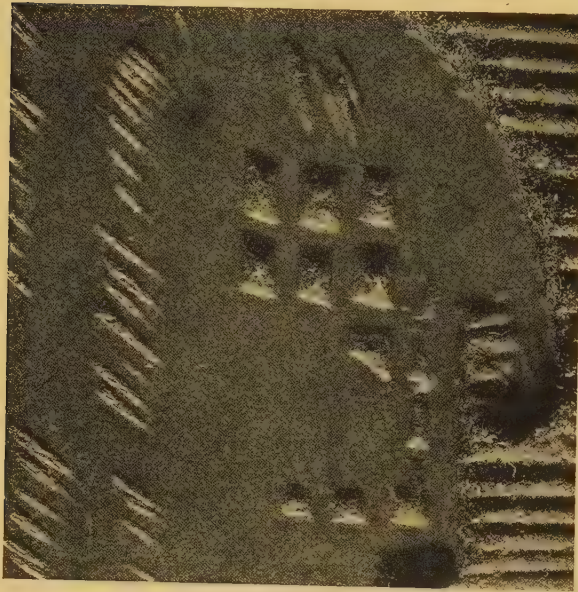
The design to be cut is drawn or transferred on to a block of thick linoleum (oil-cloth or cork lino will not do) and with knife and gouges the white spaces or ditches between the black lines of the design are cut away, leaving the design standing up in relief, like a piece of wood-carving. The linoleum is then tacked or glued to a piece of wood to make it type high (the height of a shilling on its side), so that it can be printed on an ordinary letterpress printing press in conjunction with type if need be.

LINOLEUM CUTTING

NOTES ON THE MICROPHOTOGRAPHS

The microphotographs here reproduced are of the open windows on the left of "A Wiltshire Cottage." That of the block shows well the grain of the linoleum printing surface on which the crude knife and gouge cuts are very evident. The fibrous quality of the linoleum when cut can be seen very distinctly at the edges on the right, but it will be noticed that these do not print as they are below the printing surface. The enlargement of the print shows the characteristic tooling of the gouge on the right and, in contrast, the characteristics of the knife cut as shown in the cutting of the windows. The most homogeneous results are obtained by using only a knife or only a gouge on a single block. I have here mixed the tooling the better to illustrate the process.

LINOLEUM CUTTING



MAGNIFICATION OF BLOCK



MAGNIFICATION OF PRINT

LINOLEUM CUTTING

NOTES ON PRINTING

A linoleum block is printed in the same way as a woodcut or wood engraving. It is fixed into the bed of a printing press, inked with a roller or brush, with the former using ordinary printing ink, with the latter lithographic printing ink with paraffin as a medium, or water-colour or Indian ink mixed with a little rice paste to stiffen it. If ordinary or lithographic ink is used the paper need not be dampened, but if paste is employed (which implies the use of water as a medium) then the paper should be dampened but the surface should not be wet. A linoleum block will yield as many as 15,000 proofs if the linework is kept bold and not undercut.

(For bibliography, see "Woodcutting," "Wood Engraving," and "Colour Block Printing," pp. 40, 44 & 50)

COLOUR BLOCK PRINTING



Thomas Todd Blaylock

COLOUR BLOCK CUTTING AND PRINTING

By THOMAS TODD BLAYLOCK

CHARACTERISTICS

The design for a block print should be as simple as possible and provide large spaces of colour. These spaces give opportunity for delicacy of colour gradation or for making use of the beauty shown in the curving grain of the wood which is allowed to show through the colour surface.

Greater refinement should characterise the use of wood as compared with linoleum as very fine lines can be produced, but with linoleum blocks thin lines are apt to break under pressure of printing.

As the run of the grain in a wood block must be taken into consideration greater freedom of cutting may be expected in linoleum which has no grain whatever.

The chief characteristics of block prints should be vigour shown in cutting the blocks combined with delicacy of colour in printing.

HOW MADE

The tools used are: A small flat-bladed knife with the end ground diagonally to a sharp point, a small deep gouge and broad flat gouge.

The design is traced (laterally reversed) on to the blocks, one block for each colour unless there are two spaces of different colours widely separated, when they may be cut on one block.

With the deep gouge a channel is made around each part of the work, care being taken to keep the tool accurately to the edge of the design. As the gouge cannot reach into certain parts, or cut sharp corners, the knife is used for these places. It is held in one hand and the blade tip is pushed along by the fore or middle finger of the other hand. The blade is slightly tilted outwards so as not to undercut the work. The background material is cut away afterwards with the shallow gouge or, in places, with the knife.

A flat space is left at the bottom of the block in which marks are cut to ensure the correct placing of the paper for registration.

COLOUR BLOCK CUTTING AND PRINTING

NOTES ON PRINTING

The colour generally used for printing is powder colour finely ground and mixed into a paste. This is applied to the block by means of a flat wash brush previously dipped into a little rice paste. This fixes the colour and gives quality to the work at the same time. The colour is brushed on backwards and forwards in as even a way as possible, or one colour is gradated into another by brushing together on the block.

The paper, previously moistened by being left between damp sheets of blotting paper, is placed in position with its lower corner and edge on the registration marks and pressure is applied by means of a pad or "baren," as it is termed. A circular piece of ribbed glass, or the back of a spoon, may be used but there is nothing better than a hardish pad made by twisting up a small piece of cotton or linen rag.

The pad is rubbed in a series of circular movements over the back of the paper and varying pressure gives different intensity of colouring.

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COLOUR BLOCK PRINTING



PROGRESSIVE PROOFS

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INTAGLIO PROCESSES

LINE

LINE ENGRAVING
ETCHING ON COPPER
ETCHING ON ZINC
COLOUR ETCHING
DRYPOINT ENGRAVING

TONE

MEZZOTINTING
DUST GROUND AQUATINTING
SPIRIT GROUND AQUATINTING
COLOUR AQUATINTING
SOFT-GROUND ETCHING
SANDGRAIN ETCHING

LINE ENGRAVING



E. Marsden Wilson

LINE ENGRAVING

By E. MARSDEN WILSON, A.R.E.

CHARACTERISTICS

Engraving is the severest form of print making, and, in comparing it with other methods, it will be seen at once how different is the character of its line. There is none of the accidental variation of the etched line, no soft, "burry" edge, as in drypoint, but a clean, sweeping line that goes its way with a certain calm assurance of being right which gives it a dignity and quality all its own.

HOW MADE

The essential tool is the graver, or burin. It is a small steel rod, four or five inches long, of square or lozenge section, obliquely ground at the end to form a cutting point, and has a round handle rather like a small door knob. The tool is held almost horizontally with the handle in the palm of the hand and pushed forward into the metal. The direction in which this can be done is somewhat restricted and in making a curved line the plate, laid on a pad or sandbag to facilitate its movement, is turned round with the curve as much or even more than the graver. It is to this method of handling that the peculiar quality of the engraved line is largely due. The point of the graver works something like a plough and makes a V-shaped furrow, throwing up the metal in little curls. If the tool is really sharp it leaves a clean line with practically no burr. Should any remain it is removed with a scraper. If greater strength is required a line may be re-entered and deepened or another cut be made alongside, so close that it will print as one with the original line. Considerable variety of tone and surface texture may be obtained by cross-hatching, though many plates have been done almost, if not entirely, without this.

LINE ENGRAVING

NOTES ON THE MICROPHOTOGRAPHS

As an engraving, like an etching, can be printed "fat" or "bare," the quality or type of line itself is a better guide than anything else in judging whether it is engraved or etched. It may be noted that many of the so-called steel engravings of last century have not a line of engraving upon them except the name and title. They were etched on copper with a formal system of lining supposedly in imitation of engraving and printed very clean and bare, which helped to create the effect of engraving. In some of these plates the sky was machine ruled. An examination of the enlarged detail shown in the two microphotographs will give a better understanding of some of the distinguishing qualities of engraving. The lines are smooth-edged with a longish sweep, mostly ignoring minor variations of form while at the same time obtaining a good deal of expression by gradation in depth. It may also be noticed that many of the lines not only vary in this way along their course but begin with a fine point, increasing in depth until the full strength of the line is reached. This is quite characteristic and more or less inevitable in a single cut line owing to the nature of the tool and the angle at which it is held. If, as sometimes happens, a perfectly even or a square ended line is desired, a return cut must be made along the same groove. This is known as "cutting back."

NOTES ON PRINTING

To the printing of a line engraved plate printing from all other intaglio plates is akin. First the plate is cleaned, then heated and, whilst still warm, the engraved lines are filled with ink by means of the dabber and, with a piece of stiff muslin, the surface of the plate is wiped, care being taken not to wipe the ink out of the lines. The polishing is finished with the palm of the hand on which is a trace of whiting. Whilst still warm the inked plate is put on the travelling bed of the copperplate printing press, a sheet of dampened paper placed on it, two or three blankets over the paper and the whole passed through the rollers of the press. The heavy pressure, acting on the blankets, forces the damp paper into the sunk lines of the plate and

LINE ENGRAVING



MAGNIFICATION OF PLATE



MAGNIFICATION OF PRINT

LINE ENGRAVING

picks out the ink. *Retroussage*, a method of gently coaxing some of the ink out of the lines with soft muslin, so as to widen and enrich them when printed, is very rarely used in printing a line engraving; nor is surface tone. A clear, bright print best suits the somewhat severe character of the engraved line.

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ETCHING ON COPPER



Edward W. Charlton

ETCHING ON COPPER

By EDWARD W. CHARLTON, R.E.

CHARACTERISTICS

In comparison with prints produced by other intaglio line processes, such as line engraving and drypoint, the etched line is much freer and more ragged in its quality. Compared with an etching on zinc the line of a copper etching is finer. The bitten line on copper is, or should be, broader in section at the bottom than at the top. Thus, when printed, the ink is squeezed out of a bottle-necked opening, as it were. In zinc this is too often liable to become reversed and the ink, therefore, pressed from a shallower, splayed out opening.

HOW MADE

To the successful grounding of a plate by either of the three conventional processes, ball and dabber, roller, or liquid ground, including the necessary operation of smoking it with tapers, must be added practice, patience and a good deal of knack. When the traced drawing has been re-traced in reverse on to the "ground" the needle comes into play, gliding, as it should, freely and without hesitation, working simply and making sure of exposing the copper evenly, the drawing being viewed in a mirror the while. Biting in follows, in a bath of fairly slow but very sure mordant, ebullition being feathered off, the plate removed at intervals for inspection and the stopping out with soft brush and varnish each part sufficiently bitten, mistakes and blemishes. Spirit of turpentine will clean it off and after a thorough polish front and back a proof may be taken.

ETCHING ON COPPER

NOTES ON THE MICROPHOTOGRAPHS

The natural print shows the lines as ragged and somewhat shaky, the latter a fault perhaps less open to criticism than too pronounced a stiffness would be, as they denote a fuller spontaneity and freedom of action. The raggedness was mainly intentional with a view to expressing the weather-beaten appearance of the craft, both the brigantine and the small wherry being old and in need of repair. The finished proof closes up the apparent defects of the needle work, as for instance the broken lines which are liable to be made in the hurry of transcribing objects always more or less on the move. Three degrees of needle were employed in the portion of the plate magnified. In the microphotograph of the etched plate we see clearly the characteristic blunt end of the etched line. This should be compared with the tapering ends of the engraved and drypointed lines (pages 55 & 69). Such a comparison illustrates clearly the different qualities of the etched, engraved and drypointed line. Notice, also, how much richer are the lines in the print than those on the plate. This is due largely to *retroussage*, especially under the stern of the brigantine.

NOTES ON PRINTING

An etching is printed in the same way as a line engraving and other *intaglio* processes. An etched plate is not, as a rule, clean wiped, as is a line engraving, but a thin film of ink is allowed to remain on the surface of the plate and *retroussage*, in moderation, is used to enrich the print. Black and brown inks are most commonly used.

ETCHING ON COPPER



MAGNIFICATION OF PLATE

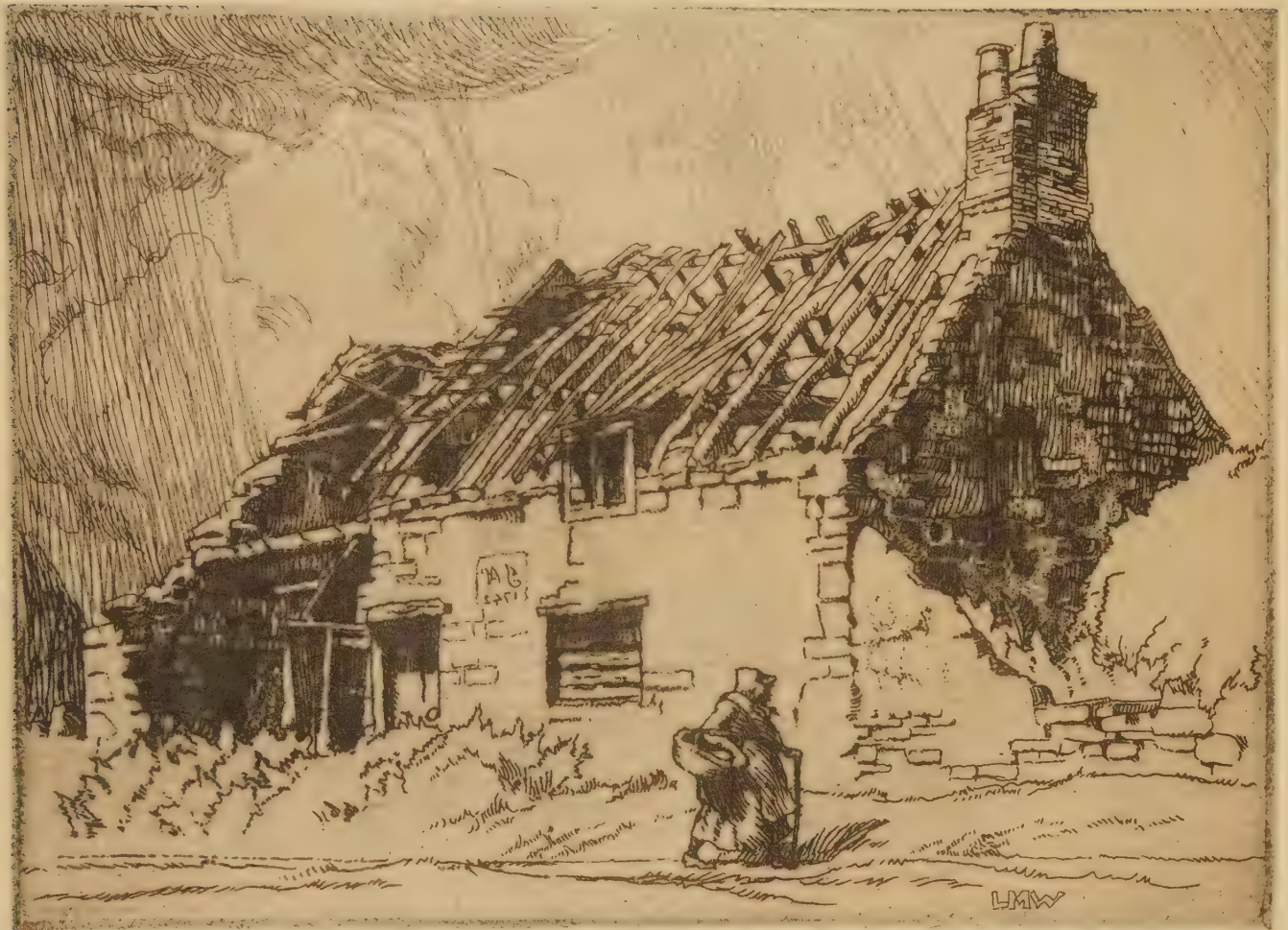


MAGNIFICATION OF PRINT

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ETCHING ON ZINC



Leslie M. Ward

ETCHING ON ZINC

By LESLIE M. WARD, A.R.E.

CHARACTERISTICS

Zinc is a porous and brittle metal, used in etching for the vigorous effects which it will yield. It is eminently suited to large work, for quick sketches from nature and plates depending for their effect on pattern and vigorous line rather than on delicacy of biting. A zinc plate gives a rough line comparatively wide to one made on copper.

There is a tendency with zinc plates to what is known as "foul biting," a minute pitting or pin-holing of the surface of the plate giving it a spotted effect. Zinc plates are much more difficult to re-touch than copper, as it is well-nigh impossible to prevent foul biting when a new ground has been added for extra work.

In this way the effects on zinc have a freshness and spontaneity often lost on copper, where it is possible for countless grounds to be laid in succession, when the original freshness is very often lost though a certain superficial finish is produced.

HOW MADE

The process of etching zinc and copper is very similar, the principal difference being that zinc requires a very good ground indeed, as given the least chance it will foul bite, the lines becoming "rotten" and broken and the plate surface covered with spots.

Grounds. Liquid etching ground (etching ground dissolved in chloroform) is sometimes recommended for zinc plates, but it has a tendency to harden after a day or two, especially in cold weather, when it becomes brittle and chips off as the needle point removes it in making the drawing on the plate. Rhind's black etching ground laid with a dabber and very lightly smoked is admirable and often will not foul bite at all.

Strength of Acid. Another point of difference is the strength of acid. One part in twenty parts of water will give a fine, steady line in from three to five minutes and a strong dark line in twenty minutes to half an hour.

It is advisable to use a fine point for the drawing as the line widens very rapidly as biting proceeds. The fine work may be drawn quite closely, but where lines are to be strong and deep they must be kept

ETCHING ON ZINC

well apart. The acid may be used one part in ten parts of water, or even stronger, but if this is done the tendency to foul biting is greater and the line widens still more rapidly. The strength of acid will necessarily vary with the scale of the work and the sort of line required.

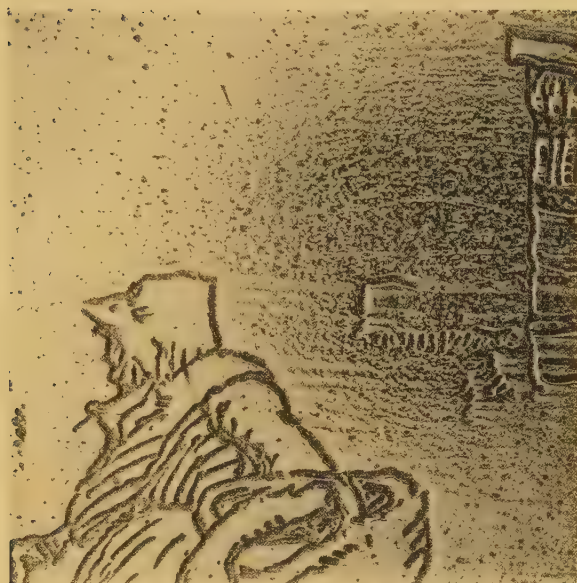
Zinc plates can now be steel-faced, which greatly lengthens their printing life, and in the case of a boldly bitten plate does not detract from the result. In the case of the example shown,* which was drawn from nature on the plate and completed in about three bitings, the trial proofs made before steel facing were certainly richer than those afterwards made. Very little foul biting occurred with this particular little plate, though the ground was laid some months before the biting-in was done. If a second ground had been laid the plate would certainly have been covered by the foul biting, and would have had to be most carefully protected by stopping-out varnish in any parts where a clean white background was desired.

NOTES ON THE MICROPHOTOGRAPHS

A comparison of the microphotograph of the zinc plate and its proof are very helpful to the student and collector. In the enlargement of the proof very little difference can be traced from the original in spite of the magnification. The actual relief of the lines, which is clearly visible in an original proof, is lost, the light and shade of the lines being confused with their dark colour.

In the microphotograph of the plate a number of important points are brought to light which would not be noticed even with the original plate in the hand for study. The porous texture of the metal is clearly visible, and also a great deal of minute "pitting" or foul biting of the background. These fine dots are barely seen on the plate, but come out clearly in the enlargement. The intaglio character of the lines is also very noticeable and also the width of the lines in proportion to their depth, a special feature of zinc line work. Also the lines which make up the darks of the proof and which appear solid are seen in all their raggedness. It is also clear in the enlargement that the apparently smooth, polished surface of the metal is really very rough microscopically, and this gives rise to foul biting. This roughness of the metal predisposes the plate to hold ink more strongly than copper, and accounts for the difficulty experienced in wiping off zinc plates as compared with copper.

ETCHING ON ZINC



MAGNIFICATION OF PLATE



MAGNIFICATION OF PRINT

NOTES ON PRINTING

There are no special differences in the printing of etched plates on zinc or copper. The plates being generally fairly large and vigorous in effect will stand rather more artificial printing than a delicate line copper plate.

The simpler they are printed the better the result. Many etched plates are ruined by the wiping out of lights in a theatrical fashion. The plate should be wiped so that there is a faint tint everywhere and a little more under the strong lines. The essential thing is that all the masses of the design, and the vital draughtsmanship, must be actually on the plate. Printing merely enhances these and gives them a certain richness and variety which forever draws a distinction between the true etching and the pen and ink drawing made on paper.

The zinc plate, generally speaking, will hold a heavier surface tone of ink than copper, as the vigorous lines and direct work are not so easily obscured by the ink tone.

Etchings which depend not so much upon variety in depth of biting, but upon the open or wide spacing of line patterns (giving a decorative result), lend themselves very admirably to the zinc method.

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COLOUR ETCHING



Iain MacNab

COLOUR ETCHING

By IAIN MACNAB, A.R.E.

CHARACTERISTICS

There are two ways of producing etchings in colour. In the one, a separate plate is etched for each colour and the impression is printed from each plate in turn. In the other, only one plate is used and an impression taken when the plate has been covered with all the colours required. For the example shown the first method was used and its chief characteristics are that it is possible to keep the edges of each pattern of colour quite definite; the colours in the bitten lines print sharply showing these etched lines; and one colour may be printed over another.

HOW MADE

In this case three plates were used, one each for the brown, the blue and the black. The plates were then covered with etching ground and smoked, in the usual manner. Taking the first plate, all the brown part of the design was drawn with the needle and then etched in the acid, "stopping out" with varnish the light lines when bitten deeply enough and leaving the darker lines longer in the acid, as for an ordinary etching. Similarly with the plates for the blue and the black, taking great care that the design was registered accurately on each plate so that all the parts of the design would fit together when the plates were printed. With the green of the shutters, the faces of the women, the washing, etc., the area of these colours was so small that a plate for each was thought to be unnecessary and they were applied when the plates were inked for printing.

COLOUR ETCHING

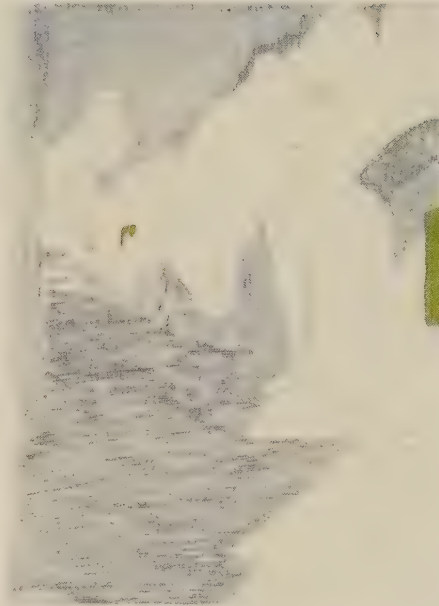
NOTES ON PRINTING

The chief difficulty in this method of multiple printing lies in registering the various printings, as a slight variation will throw the design out of alignment and ruin the print. But with a reasonable amount of care errors can be avoided. Otherwise, as only one colour is used to each plate and the wiping is thus quite straightforward, this way is more satisfactory than the other, or "la poupée" method, so called as the colour is applied by small dabbers somewhat like little dolls, and by which it is difficult to keep the edges of the colours distinct. The colours in powder form are ground and mixed with burnt oil and each plate is inked and printed as any other monochrome etching. As the surface can be wiped clean by hand, the colour in the lines will print sharply. Any other colours, such as the green shutters, etc., are applied by a stump or brush just before printing. The black plate was printed hot, but the colour plates were printed cold to give them as much tone as possible.

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COLOUR ETCHING



PROGRESSIVE PROOFS

DRYPOINT ENGRAVING



Alfred Palmer

DRYPOINT ENGRAVING

By HESKETH HUBBARD, R.O.I., R.B.A., A.R.W.A.

CHARACTERISTICS

A drypoint is an engraving in the making of which the artist uses a heavily weighted piece of pointed steel (a drypoint), or a ruby or diamond in place of the graver used by the line engraver. It is called "drypoint," because no acid or liquids are used in making it, as in etching. The drypoint is held at an angle and ploughed through the copperplate like a plough through a field, throwing up at the side of the furrow the metal displaced. This is known as the "burr" and is the chief characteristic of a drypoint as distinguished from an etching or engraving. In a drypoint it is allowed to remain, in a line engraving it is always removed with a scraper. The burr gives to the drypointed line a velvety quality and richness which the bitten line of an etching never yields. The drypoint tool dictates a freer and more informal line than the graver.

HOW MADE

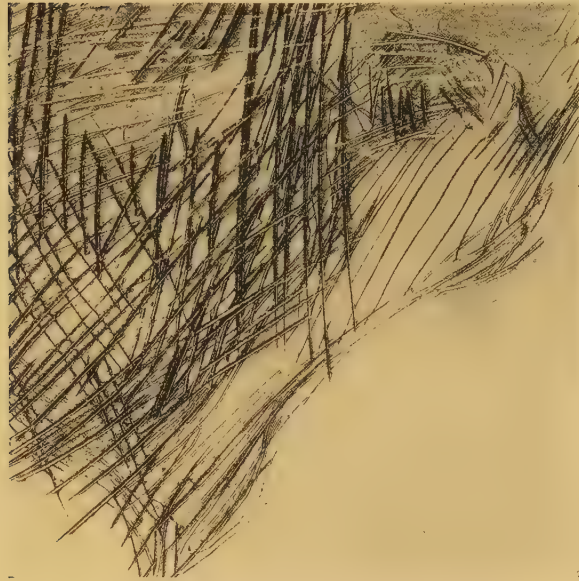
The plate, of copper or zinc, may be grounded or not. If it is grounded it is simply to enable the artist to transfer his design to the plate by one of the tracing methods used by the etcher. If the plate is not grounded, the design is often sketched direct on the plate with a brush and chinese white water-colour. The design is then carved on the plate with the drypoint tool, the tool being pressed deep into the metal for dark, heavy lines, lightly for fine ones. If a ground is used it is washed off with turpentine as soon as the main lines have been scratched on it. The artist, with his finger, rubs a little printing ink into the lines as he progresses and is so able to see how his design fares, the engraved lines showing black on the bright, polished surface of the plate, like early niello work.

DRYPOINT ENGRAVING

NOTES ON THE MICROPHOTOGRAPHS

The microphotographs are of part of the hair and right upper arm of Mr. Palmer's "Nude." The magnification of the plate shows the almost haphazard, rough scratchings of the drypoint tool and how it has ploughed through the plate, leaving at the side of the lines ridges of metal, the "burr." When the plate is charged with ink the burr holds so much of it that most of the line work is obscured which gives to the print a rich, velvety quality only akin to the tone burr process of mezzotint. Perhaps of all the microphotographs reproduced in this book these two show more difference than any other two between the printing surface and the print.

DRYPOINT ENGRAVING



MAGNIFICATION OF PLATE



MAGNIFICATION OF PRINT

DRYPOINT ENGRAVING

NOTES ON PRINTING

A drypoint is printed in the same way as an etching or other intaglio print. *Retroussage* is used, as in etching. As few trial proofs as possible should be pulled on paper, because the burr on the plate is delicate and will not stand being passed through the press too often without snapping off. Consequently a drypoint rarely yields more than twenty or thirty good proofs. When a larger edition is required the plate can be steel-faced, that is, have its surface hardened by having an electrically-deposited film of steel put on it. Drypoint lines are often strengthened with the tool as the printing of the edition progresses.

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| 1920 | ON MAKING AND COLLECTING ETCHINGS. Ed. by Hesketh Hubbard |

MEZZOTINTING



E. Marsden Wilson

MEZZOTINTING

By E. MARSDEN WILSON, A.R.E.

CHARACTERISTICS

The distinguishing characteristics of a mezzotint are its rich velvety texture, especially noticeable in the darks, and its wide range of tone values. With a well-rocked plate and a scraper used with understanding this method will give the utmost variety and richness of effect. It is capable of almost infinite gradation, from the deepest tones to the highest lights. In pure mezzotint no lines are used and no acid, the whole effect being produced by means of rocker and scraper.

HOW MADE

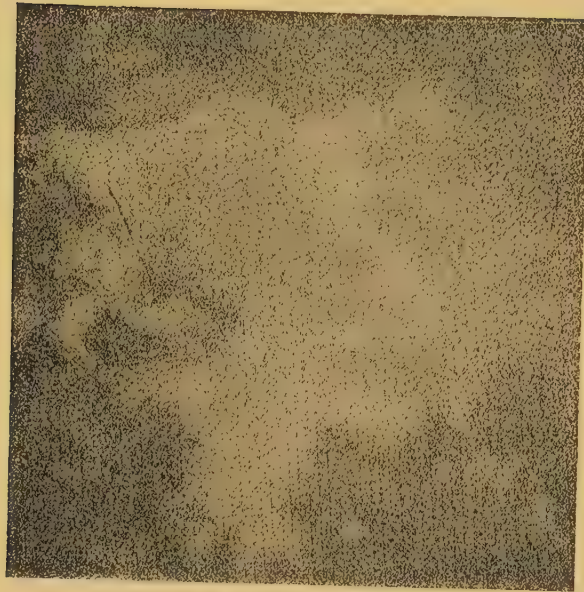
In making a mezzotint a piece of copper is evenly roughened all over its surface by means of a rocker. This is a flat steel tool of very fine temper, usually about $2\frac{1}{2}" \times 2\frac{1}{2}"$ and $\frac{3}{16}"$ thick, with a tang or handle at the top and a curved rocking edge opposite. On one side the surface is grooved so that at the lower edge, which is bevelled from the back, the effect is that of a row of sharp teeth. These may be anything from fifty to a hundred to the inch, though a tool of seventy or eighty is most generally used. This tool is rocked to and fro across the plate in forty or fifty different directions until the plate is so cut up that none of the original polished surface remains. A plate so rocked is called "full" and is now ready for scraping. If printed in this condition it would give a uniform rich black. The design is transferred to the plate by a careful tracing or it may be drawn direct on the surface with a soft pencil. The burr which was raised in the rocking is now gradually removed with a steel scraper until the desired degree of lightness is obtained. Any parts requiring to be quite white are finished with the burnisher.

MEZZOTINTING

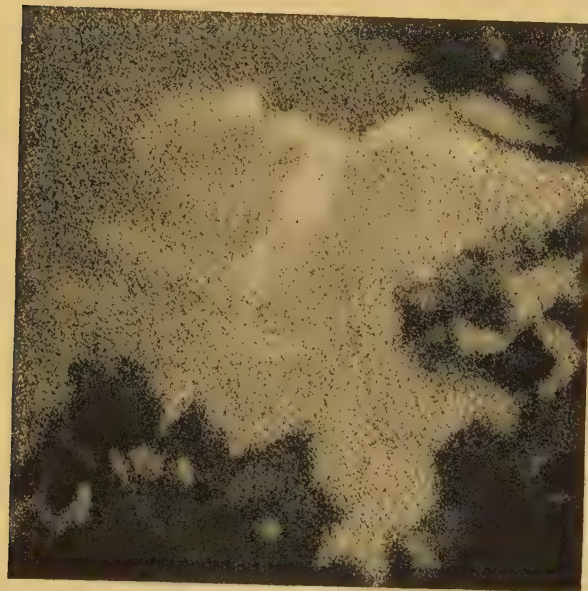
NOTES ON THE MICROPHOTOGRAPHS

The microphotographs are of part of the sky in the print of "A Glimpse of the Severn from Lydney Park." They give an excellent idea of what the texture of a mezzotint looks like when seen through a strong glass. The rows of cuts made by the rocker are clearly seen, but going in so many different ways, they balance each other and are not only unobjectionable but give a certain richness even to the more delicate tones. The grain is less obvious in the darks, especially in the print where the ink is piled up against the remaining burr and tends to run together, hiding both cuts and spaces. In comparing this texture with that of other tone processes it will be noticed that it is composed of a great number of rows of short cuts or lines which print dark on a white ground. In aquatint, on the other hand, it is made up of light spots on a darker ground, while in sandgrain the spots, though dark on light, are rounder, somewhat irregular and not in rows.

MEZZOTINTING



MAGNIFICATION OF PLATE



MAGNIFICATION OF PRINT

MEZZOTINTING

NOTES ON PRINTING

There are some differences to be noted in the printing of mezzotints. A much stiffer ink is used as a rule than would be suitable for a line plate and the ink itself is made with a stronger oil. This allows for the greater manipulation that is required as compared with printing from other kinds of etched or engraved plates. The muslin used in wiping off the surplus ink also is softer than that used to wipe an etching. The plate is warmed to help the filling and the ink is spread over the surface with the dabber. While it is still warm, the printer begins to wipe away the surplus ink with a roughly-folded piece of printing canvas, starting at the corners and working to the middle. Care must be taken in dealing with small passages of light which occur amongst the darks as they are very liable to fill up and so be lost. The wiping may be finished with the hand or with a piece of soft muslin, according to the kind of print required. Hand-wiping tends to give sharper edges and stronger contrast of light and dark. Mezzotints are mostly printed on waterleaf, that is, unsized paper, though in some cases a lightly sized paper may be used with advantage.

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 H. Herkomer
- 1895 ETCHING, DRYPOINT, MEZZOTINT. By H. Paton
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- 1904 MEZZOTINTS. By C. Davenport
- 1908 HOW TO APPRECIATE PRINTS. By F. Weitenkampf
- 1914 ETCHINGS, DRYPOINTS, MEZZOTINTS. (Studio
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 ETCHING. By A. M. Hind

DUST GROUND AQUATINTING



Cecil Leslie

DUST GROUND AQUATINTING

By CECIL LESLIE

CHARACTERISTICS

An aquatint is a print made up of tones (or tints) produced by a plate bitten with acid (or aquafortis). An aquatint has a more translucent quality than a mezzotint, and a dust ground gives a more misty quality than other aquatint grounds. It also gives very rich, velvety blacks and a wonderful feeling of diffused light can be got with a coarse dust ground, while a fine ground gives a beautiful, clear, alabaster quality to the light tones. The reasons for these different qualities will be seen clearly on looking at the microphotographs.

HOW MADE

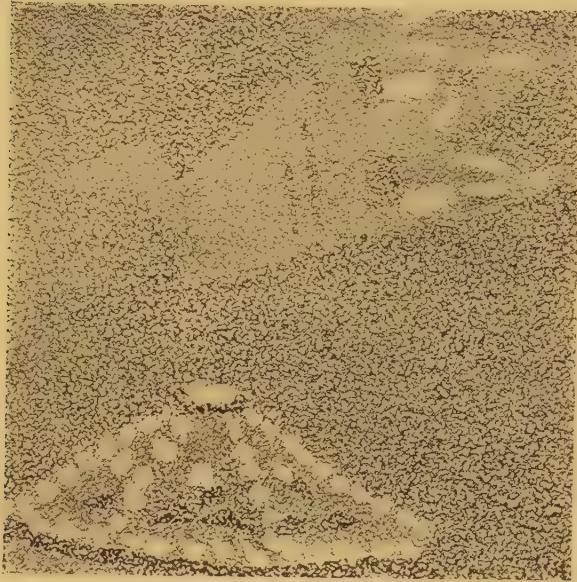
In an aquatint the picture is built up in tones, which are produced by biting a copper or zinc plate with acid. The plate is partially protected with a porous covering made of some resinous powder through the pores or reticulations of which the acid can bite, causing a minute pitting in the surface of the plate. Each tone, except the white, is made up of these pittings, shallow or deep according to the length of time it has been exposed to the acid, the depth of the pitting determining the intensity of the tone by the amount of ink it is capable of holding during printing. The white tone is not bitten, and, being smooth, holds no ink. The porous covering is obtained by putting the plate into a box containing powdered resin which has been blown into a cloud with a bellows or fly-wheel. As the powder descends it covers the plate, which is then heated to make the powder adhere to it. When cool, those parts of the plate where a white tone is required are covered with protective varnish, either freehand, or else a line drawing and carbon paper are put over the plate and the position of the white lightly marked. Then the rest of the plate is bitten to the depth of the next lightest tone. Afterwards those parts where that light tone is required are varnished over and the plate bitten again and so on for each succeeding tone.

DUST GROUND AQUATINTING

NOTES ON THE MICROPHOTOGRAPHS

It has already been explained that an aquatint is produced by allowing an acid-resisting powder to settle on the surface of a plate, fixing it there, and then immersing the plate in acid. This may be clearly seen in the microphotographs, showing the head and casket of the standing king on the right of the print of "The Adoration," where the white speckling shows the exact shape and position of the particles of protective powder and the darker tracery shows the interstices between the particles of that powder, where, the copper being unprotected, the acid has been able to bite into it to a greater or less depth according to the length of time which it has been exposed to the acid's action. There is one microphotograph of an inch of the plate and another of the same square inch of the print. In the former the white speckling is very obvious and the acid-bitten tracery, being empty of ink, is pale and more or less uniform in tone. The jewels on the crown and casket were covered with protective varnish before ever the plate was put in the acid and consequently the copper in those places is quite unmarked and appears white in the photograph. In the microphotograph of the print the white speckling is less noticeable and the acid-bitten tracery, being full of ink, varies greatly in tone, thereby making the picture. The various depths of the bitings may be judged from this photograph, the lightly bitten portions of the plate's surface holding only enough ink to impart a faint grey tone to the print, while the deeper bitten passages hold more ink according to their depth, and so a deeper tone is given to the print by them, in exact ratio to their capacity for holding ink, until the deepest of all holds enough ink to give a rich black, which, spreading in the printing, covers even the intervening speckling of unbitten metal.

DUST GROUND AQUATINTING



MAGNIFICATION OF PLATE



MAGNIFICATION OF PRINT

DUST GROUND AQUATINTING

NOTES ON PRINTING

Every individual plate needs slightly different printing, but generally speaking, an aquatint plate should be heated and have a fairly stiff ink worked into its pittings. When cool the superficial ink is wiped off, first with muslin, then by hand, then it is heated again, covered with dampened paper and passed through the press.

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SPIRIT GROUND AQUATINTING



Hugh Paton

SPIRIT GROUND AQUATINTING

By HUGH PATON, A.R.E.

CHARACTERISTICS

This form of tone etching gives, in all essential particulars, much the same result as the dust ground, but with one important difference, namely, that the print has a certain brilliancy which the other lacks. Owing, no doubt, to the fact that the resin is applied to the plate in a solution, the evaporation of the solvent leaves the deposit in a more regular formation, the whites preserved being rather more clear, without being sharp. The difference between the two, in the print, is not at a glance very great, but it is there, and it tells.

HOW MADE

The plate is made by the process of stopping-out. With the aid of an outline tracing of the subject, all spaces and small touches intended to print white, and only these, are carefully painted out with an acid-resisting varnish, the plate being then submitted to the mordant, and a short biting given. Then, similarly, all the lightest tones, just bitten, are traced and painted out, and the plate submitted to a second biting, which carries the first tone to the strength of the second. And so on to the finish, according to the number and strength of tones required. It is evident that the tones so obtained are flat, and the use of the burnisher is required to obtain modulation, sometimes of the scraper, too, but this must be used with the greatest care, avoided, indeed, if at all possible. The plate may be re-grounded, and work added when necessary.

SPIRIT GROUND AQUATINTING

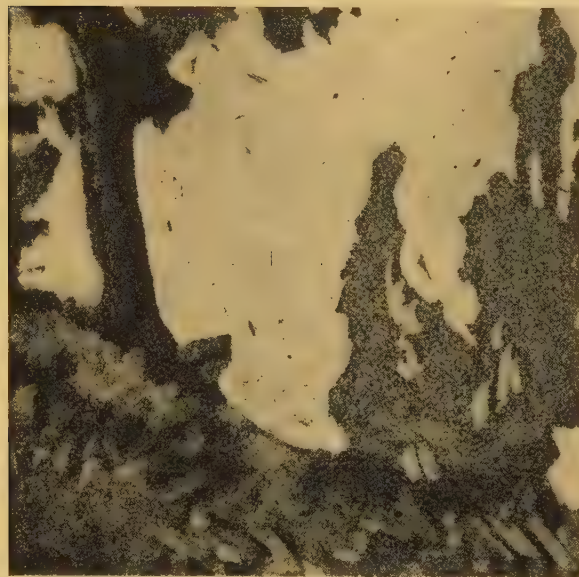
NOTES ON THE MICROPHOTOGRAPHS

The microphotographs are of the distant tree, almost in the centre of "A Sussex Lane." The difference in value shown in the enlargement from the *print*, from the light grey to strong dark, is less apparent in that from the *plate*; indeed, a casual glance at the latter does not prepare one for the marked jump from the pale grey of the distant tree to the strong dark of the nearer trunk. It will be noticed, however, that the white spots, which are regular and clear on the distant tree, have shrunk in size in the foreground one; the spaces between the grains of resin, having been bitten longer, are wider and deeper, and will hold a heavier body of ink. Hence the difference between the two. Perhaps the chief interest in these microphotographs lies in a comparison between them and those of the dust ground aquatint, shown on a previous page. In the latter there is a less regular deposit of the dust, of which, however fine, the particles vary in size, and combine as they melt in a haphazard fashion. This gives a sort of sporting quality in the print from it which has its attraction. Here, in the spirit ground, it will be noticed that the ground is more regular, being deposited on the plate in solution, the evaporation leaves the resin in the form of minute "islands with channels between," as Hamerton puts it. It is to the regularity and sharpness so preserved in the biting that the brilliancy, which is its special characteristic, is due.

SPIRIT GROUND AQUATINTING



MAGNIFICATION OF PLATE



MAGNIFICATION OF PRINT

SPIRIT GROUND AQUATINTING

NOTES ON PRINTING

The printing of an aquatint, whether dust or spirit ground, proceeds as usual, but special attention must be given to one or two points. It is the clearness, the serenity of tone, which is its chief attraction, and to obtain this a "clean" print is aimed at, the plate being wiped clean with the under edge of the palm, touched with a little whiting when special brilliancy is sought for. Retroussage, especially in the lighter tones, should be avoided, and used with the greatest discretion, if at all, in the darks. Overdone, the ink is teased over the minute whites, and brilliancy is lost, but, with a judicious use of a rather stiff ink and light teasing, richness may be obtained without disadvantage. This has been done in the case of our illustration; without it the darks would have been rather flat. Whiting also has been used to get brilliancy in the sky and foreground.

(For Bibliography, see page 78.)

COLOUR AQUATINTING



Hugh Paton

COLOUR AQUATINTING

By HUGH PATON, A.R.E.

CHARACTERISTICS

In the making of a colour aquatint all the colour intended to be got in the print must be tone engraved upon the plate. The mezzotint process is most suitable for the reproduction of the full tone of the oil painting, but for the purposes of the amateur the writer has found aquatint more adaptable, giving more nearly, as it does, the qualities of the water-colour. Aquatint has been used for the illustration, the dust ground this time, not the spirit ground, though they are equally adapted for the purpose.

HOW MADE

Two plates have been used, one for the blue of sky and water, and the other for the strong colours of the sail, the boat and the reflections respectively. On each plate, along with its own tones, have been stopped-out the parts belonging to the other, *e.g.*, the sail, boat, etc., were varnished out at the same time as the whites on the distant buildings, before the first biting, and the sky and water on the foreground plate, the tones of that being bitten more strongly, as the subject requires. It must be noted that colour, being in weaker contrast with the white of the paper than the black of monochrome, requires the tones to be more firmly bitten; otherwise the print would appear weak.

COLOUR AQUATINTING

NOTES ON PRINTING

In all four colours have been used, the blue only on the distance plate, and three on the foreground one. But a fifth has been obtained by superimposition; for example, the touch of dark shade under the gaff of the sail, which has a streak of blue on the first plate, with the red printed over it. The strong plate, in the illustration, was printed over the distance one, in the order of nature, while the paper was still damp.

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Vaughan
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COLOUR AQUATINTING



PROGRESSIVE PROOFS

SOFT-GROUND ETCHING



Hugh Paton

SOFT-GROUND ETCHING

By HUGH PATON, A.R.E.

CHARACTERISTICS

In soft-ground etching the end in view is to obtain a plate bitten with a soft broken line, rather than the clean one of the ordinary etching, and in the print it compares with a pencil drawing, as does the ordinary etching with the work of the pen, but with the added qualities peculiar to the print; these are common to both.

To this end a softer ground is used, and the method of making the drawing is different. Upon the plate, grounded and smoked, is placed a sheet of fine tissue paper, with a grain in it, and upon this the subject is drawn direct, in the usual manner of a pencil drawing, light or heavy, as the work requires. When the drawing is finished, the paper is removed from the plate, each line bringing with it its proper proportion of the ground, and the work shows clearly in copper colour against the black of the ground, every line being in strict proportion to the pressure of the pencil. The plate is then submitted to the acid in the usual way. In the case of the strong markings the acid attacks the copper vigorously, and in medium and light work less and less so, biting all in proportion. With a normal strength of mordant a quarter of an hour suffices, and the plate is ready for printing.

SOFT-GROUND ETCHING

NOTES ON THE MICROPHOTOGRAPHS

The plate enlargement here has the appearance of a light charcoal, or rather, perhaps, chalk, drawing. It shows clearly the broken crumbling line which is characteristic of the soft-ground process. It will be evident to the reader that a very steady hand is necessary in the execution of the drawing, as the acid records automatically the exact pressure of every stroke of the pencil upon the tissue paper. This is the chief difficulty in a very fascinating process. There is also here a striking similarity to the line of the lithographic print (compare page 99), a consideration of which enables one to understand how the use of soft ground was practically killed by the advent of the lithographic process, an easier and cheaper art, in the early half of the nineteenth century. But the etcher, who loves to experiment in all the processes to which the copper lends itself, finds great interest, not to say fascination, in the extra richness of which the soft ground is capable. It is when one turns to the enlargement of the print, as distinct from the plate, that one realises something of the richness referred to. The force of the rich black on this scale seems exaggerated, but this is counterbalanced by the fact that the pure white of the paper beyond the boat is lost, both being incidental to the reproductive process, and the reader will, perhaps, allow for this.

SOFT GROUND ETCHING



MAGNIFICATION OF PLATE



MAGNIFICATION OF PRINT

SOFT-GROUND ETCHING

NOTES ON PRINTING

The printing of a soft-ground plate is exactly the same as that of an ordinary etching. When the effect of pencil is desired the biting should be light and the plate printed clean; but a little *retroussage* may be used with advantage when a rich result is wanted. It was used for the illustration in this book.

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ETCHING. By A. M. Hind

SANDGRAIN ETCHING



Iain MacNab

SANDGRAIN ETCHING

By IAIN MACNAB, A.R.E.

CHARACTERISTICS

A sandgrain print closely resembles those produced by other forms of aquatint, the design being built up in tones instead of lines and for its effect depends on the strength of these various tones which are bitten into the plate from which the print is made. Each tone is made up of countless small dots, close enough together to give the effect of a tone, but here the resemblance ends. In sandgrain prints these dots vary in size and spacing, and this irregularity and the coarse and uneven quality thus given to the ground readily distinguish them from other prints.

HOW MADE

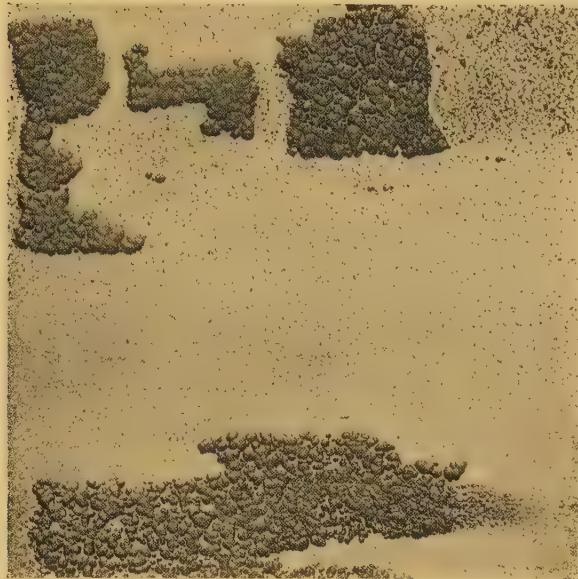
The method of preparing the plate consists of covering it with a thin layer of ordinary etching ground, placing face downwards on it a sheet of sandpaper and applying pressure. The grains of sand, forced into the ground, cause minute perforations which expose the copper. After varnishing the back and sides, the plate is ready for the acid bath, and the design, if complicated, may be traced on the ground. As these perforations are so small, the biting will proceed slowly, and quite a strong solution of acid may be used. This process is much less nerve racking than dust or liquid ground aquatint, where a greater area of copper is exposed and the first bitings may only last seconds. When the lightest tone is bitten, it is "stopped out" with varnish and the next tone bitten and so on, leaving the darks to the last, after which the plate is cleaned and is ready for printing.

SANDGRAIN ETCHING

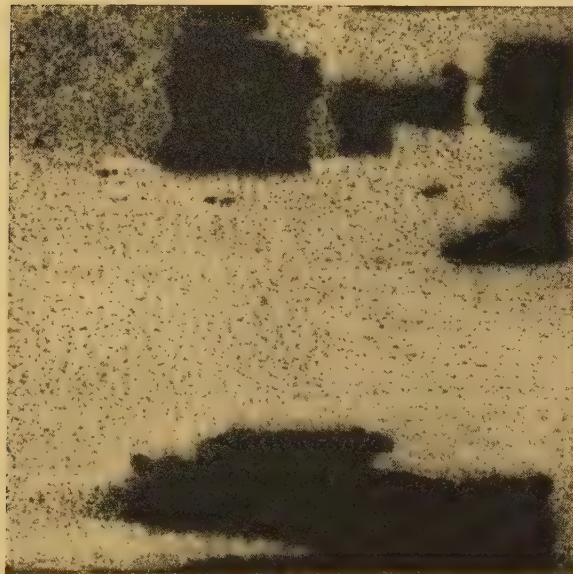
NOTES ON THE MICROPHOTOGRAPHS

The distinguishing characteristics of sandgrain may clearly be seen in the microphotographs, especially with lighter tone. These are:—the fact that the tone on the print is made up of separate dark dots upon a white ground, shown on the plate as holes made by the action of the acid on the copper which was exposed when the layer of wax was perforated by the sharp grains of sand; the sharpness of the dots except in the heavy darks where the acid in enlarging these holes has caused them to merge; and the uneven quality of the tone made by these dots and holes, caused by the coarseness and irregularity of the sand itself. These characteristics are peculiar to the sandgrain print and enable it to be recognised quite easily. In other forms of aquatint, like the liquid and dust ground processes and in methods of producing an artificial fouling of the ground, such as by using coarse linen or canvas instead of sandpaper or by sprinkling salt upon a warmed plate and so on, the results are all very different from sandgrain, and an examination of the print should reveal the kind of ground used and the method of laying it. Although a far greater variety of grounds, from the finest to the roughest, may be obtained by using some of the other methods, the sandgrain method will be found to be invaluable where a coarse and uneven texture is required.

SANDGRAIN ETCHING



MAGNIFICATION OF PLATE



MAGNIFICATION OF PRINT

SANDGRAIN ETCHING

NOTES ON PRINTING

The design will be found etched in tones, each tone consisting of minute holes on the surface of the plate, the size of these holes increasing with the strength of the tone. As in all printing from etched or engraved plates, the ink is ground finely and mixed to the required consistency with burnt oil and then freely applied to the plate and forced into each depression. The surplus is wiped off with stiff muslin and then with the hand, wiping clean enough to reveal the quality and grain of the ground. *Retroussage* should not be used. The plate is then run through the press with dampened paper and an impression taken. As a general rule, to give the best results a sandgrain plate should be wiped when cool and printed hot, but the method of printing and the kind of ink used will vary slightly with each plate.

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- | | |
|------|---|
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PLANOGRAPHIC PROCESS
LITHOGRAPHY

LITHOGRAPHY



Leslie M. Ward

LITHOGRAPHY

By LESLIE M. WARD, A.R.E.

CHARACTERISTICS

A lithograph is essentially autographic, an original work. It is neither the result of graving by means of tools nor of corrosion by acids. A good lithograph pre-supposes an artist who knows his craft; then drawing and sensitive quality are bound to come out in the result.

Every mark of the chalk, brush, pen or scraper, prints, and if the work is bad it looks worse in the print. Whatever appears in the print has been put upon the stone by knowledge and skill. Tricky effects of printing which clothe a poor drawing in tints of beauty and mystery are not possible. It is the artist's original drawing made upon stone, metal plate or transfer paper which itself furnishes the printing surface. The capable artist working with pen, brush or chalk will get the true autographic qualities of each. Another feature of lithography is the ease by which fine lines can be scraped out, giving small lights in dark or grey tones. This is a lithographic effect and not possible to any extent in ordinary drawings made on paper.

A lithograph made from a single stone has a certain flatness of effect due to there being no varying depths of ink in the various parts, but only a more or less filling in of the grain with ink. Some artists print a monochrome study from two or more stones in order to get greater variety of grey and black. In colour work this is nearly always necessary, as a single strength of printing colour will give nothing like the variety obtainable in ordinary water-colour drawing by the use of different strengths of a single pigment.

LITHOGRAPHY

HOW MADE

A lithograph is a print made from a drawing on stone, metal plate or upon transfer paper (and transferred to stone or metal). This drawing is an original work made by the artist with either pen, brush or chalk or a combination of these.

In all cases the ink used contains a proportion of grease in the form of soap and tallow. It is this grease which is absorbed by the lithographic stone and enables the drawing (after proper treatment of the background or plain portions) to receive ink from a roller and so give duplicate impressions. The stone or plate may receive a grain by rubbing with a muller and fine moist sand. This grain is essential for chalk lithographs such as the example given, which was drawn upon a stone grained with fine sand passed through a fine sieve, 100 to the inch mesh. Brush work was added in the sharper darks and a few white lines taken out with a scraper.

For brush and pen work only, a smooth surface is put upon the stone by polishing it with Water of Ayr stone (a kind of slate), but this surface is not suitable for chalk.

After the drawing has been made, it is gummed all over with gum arabic to which a small proportion of nitric acid has been added.

This, in the lithographer's phrase, "etches" the stone. That is, it changes its surface from a carbonate of lime, which is grease absorbing, to a nitrate of lime, which offers resistance to grease. After this gum and acid has been allowed to dry, the stone is placed on the lithographic press and is washed to clean it of superfluous gum.

It must be understood that the process of "etching" in a lithograph is not in any way to give relief in the lines or background, but merely to create a grease resisting surface in the non-printing portions.

The solutions used for metal plates and stones vary, but the principle is the same in each case. It is not possible in a short summary to describe each process in detail, and readers are referred to the bibliography, which gives some excellent and complete treatises on

LITHOGRAPHY

the process. Aloys Senefelder, the inventor of lithography, considered that it would replace copper plate art, as it was possible by his invention to rival both aquatint, mezzotint, soft-ground etching and other processes. All these things may indeed be done upon stone and are done by artists, but they are not so essentially characteristic of the method as is the autographic reproduction of original chalk and ink drawing.

LITHOGRAPHY

NOTES ON THE MICROPHOTOGRAPHS

The microphotograph of the stone brings out very clearly the beautiful grain imparted by the fine silver sand used in grinding. The grain is not mechanical in its effect as the hillocks forming the dots vary in size and density. One or two dark lines put in with a pen can be seen at the top left hand side of the photograph and also on the right hand side some white lines appear which have been made by scraping with a knife. These enlargements should be compared with those of the aquatints and soft-ground (pages 77, 81 & 87). In the microphotograph made from the lithographic print the same points referred to are seen, but there is a loss of sharpness from the stone original and a tendency for the white parts to become partly filled in with ink. In lithography there is always a slight loss between the effect on the stone and the proof on paper, though the aim of the lithographer is to make them as nearly alike as possible. The very slight and shallow character of the actual grain used for this stone becomes in the photographic enlargement a very coarse, open texture such as might be used for a large poster or other design.

LITHOGRAPHY



MAGNIFICATION OF STONE



MAGNIFICATION OF PRINT

LITHOGRAPHY

NOTES ON PRINTING

To produce fine work careful printing is essential. The stone, having been dampened with a soft cloth, is rolled up with a " nap " roller of calf skin which is inked with the best lithographic " chalk " ink. For the best results from grained work the ink is kept rather stiff and is only sparsely placed upon the roller. The paper used in printing may require to be dampened as for an etching, but certain kinds can be used dry (as, of course, in all commercial work). The stone receives ink from the roller gradually and as successive proofs are pulled these generally acquire richness and strength. The best chalk lithographs do not as a rule yield a great many impressions, because either they become too dark as printing continues, or else the delicacy of the lighter parts becomes impaired and the artist is dissatisfied and destroys the works. In hand printing the paper is placed on the stone, several sheets of packing paper and possibly a sheet of fine blanketing on top.

Pressure is imparted by pressing down a lever which brings the stone in contact with a scraper of hard wood covered with leather. A handle is then turned and the stone passes under the scraper. The carriage or bed of the lithographic press, upon which the stone is placed, is covered by a tympan sheet of brass or leather, stretched upon a metal frame, and this tympan is lowered so as to come between the stone and the scraper during printing.

A drawing is first made giving the key and general design of the work and small register marks shaped like a letter L are ruled on the corners of the stone. From this original stone prints are made, one for each printing colour to be used in the design. These prints while wet are dusted over with red or violet offset powder (which contains no grease), and are laid down each on a separate stone by passing through the press, causing an offset or impression in coloured powder. The artist now draws in black the work required for each colour stone, working in ink or chalk according to the strength of colour required. The register marks are carefully inked in and when the first proofs are made these are cut with scissors enabling the printer to place them exactly into the corresponding marks on the successive stones. In this way perfect register is obtained in hand printing.

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The most artistic results are made by printing each colour into its place as in a Japanese Colour Print or a mosaic, though in some cases over-printing may be used effectively. For colour printing the paper is generally used dry as it is next to impossible to get good register with damp paper.

Colour printing involves what is known as "washing out" of the drawing by means of turpentine. All work being drawn of necessity in black, after etching this has to be removed before rolling up with the colour roller. To do this the stone is damped and a little turpentine is poured on and the black work is rapidly washed out. The grease from the drawing ink and chalk become incorporated with the stone and, though the black has now been removed, the stone offers a ready surface to the colour roller, so that the design quickly appears in its proper colour.

This practice of washing out is used in black-and-white printing also and is sometimes resorted to when a drawing becomes too dark upon the stone. It is a remarkable effect to see the drawing reappear on the stone as the roller passes over its surface. There is, however, a danger that some of the more delicate parts will be lost, so that washing out is not to be recommended as a rule for chalk drawings.

As the printing of an edition proceeds the grain of a stone accumulates a delicate bloom or faint tone. This can be rubbed away more or less as desired, but it in no way resembles the tone left in copperplate printing, which gives such charming results not really drawn by the artist on the plate.

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GLOSSARIAL INDEX

ACID TINT. A method of tinting an intaglio plate in parts by leaving acid on the surface of the plate. See also SANDGRAIN and SULPHUR TINT.

AD VIVUM. Placed at the foot of a portrait indicates that it was done "from life," not "after" a painting.

AFTER. A print is said to be "after" an artist if it is a reproduction of one of his pictures and engraved by another hand.

AGAR'S GRAIN. A peculiar arrangement of dots used in stipple engraving. See also COCKED HAT GRAIN, BUTTERFLY'S WING GRAIN, LEMON GRAIN and SMALL POX GRAIN.

A LA POUPÉE. A method of inking a plate with a *poupée* or bunch of rags known as a "doll." 29, 66.

ALGRAPHIE, ALGRAPHY. Lithography from aluminium plates. 35.

ALTERED PLATES. Plates in which some change or alteration has been made.

AQ., AQUAF., AQUAFORTIS. Placed at the foot of a print meaning "etched by."

AQUAFORTIS. (Strong water.) The early name for etching (q.v.). 75.

AQUATINT. A tone intaglio process which is etched through a porous ground of sand or some powdered resinous substance. Aquatints may be dust or spirit ground. 29, 30, 31, 32, 33, 34, 72, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 89, 90, 96, 98.

ARTIFICIAL PRINTING. The leaving of various films of ink on the surface of the plate with a view to different tints appearing on the finished proof. 64.

ARTIST ENGRAVER. The English rendering of the French "*Peintre-Graveur*," implying an artist who engraves his own designs in contradistinction to a reproductive engraver (q.v.).

ARTIST'S PROOF. See TRIAL PROOF.

ARTIST'S PROOF BEFORE LETTERS. A proof from a plate before the inscription, or title, at the base has been engraved upon it.

BAREN. A porcelain, glass, wood or bamboo sheath-covered tool for rubbing the back of paper to obtain an impression of a relief block. 50.

BATH. A porcelain or glass dish containing acid in which a plate is etched or bitten (q.v.). This method has superseded "damming" (q.v.).

- BAXTER PRINTS.** Colour prints produced from an engraved key plate and a number of colour wood blocks by George Baxter, who patented the process in 1835. 23, 30.
- BEVEL.** The sloping edge of a plate. See **PLATE MARK**.
- BIDRI.** A method of niello used in India. See **NIELLO**. 24.
- BITING.** The action of acid on metal. The process in etching of submitting the metal plate to the acid. 26, 27, 32, 35, 57, 61, 62, 64, 75, 76, 79, 80, 83, 85, 88, 89.
- BLIND PRINTING.** A method of printing from an un-inked relief block which merely gives an embossed impression, used chiefly in giving a richness to textures. See **GAUFFRAGE**. 21.
- BLOCK.** A block of engraved or carved wood or linoleum from which a printed impression can be taken. 37, 38, 40, 41, 42, 44, 45, 46, 49, 50.
- BLOCK BOOK.** A number of briefs (q.v.) folded and bound together to form a book. 20.
- BLOCK CUTTER.** An engraver who cuts a wood or linoleum block.
- BLOCK PRINTING.** Printing from wood or linoleum blocks. See **LINOLEUM BLOCK PRINTING**. 19, 37, *et seq.*
- BOOK PLATE.** A label printed with the name of the owner and pasted on the inside cover of a book. Also called "ex-libris."
- BRIEF.** A single sheet block print. 19.
- BURIN.** A graver (q.v.). 25, 53.
- BURNISHER.** A steel or bone tool having an oval section and a rounded and highly polished edge. Used to reduce intaglio lines, and with which to rub the back of a proof when printing a woodcut. 40, 44, 71, 79.
- BURR.** A ridge of metal raised by the drypoint tool. A line with a burr to it prints rich and velvety, the characteristic quality of a drypoint and mezzotint. 53, 67, 68, 70, 71, 72.
- BUTTERFLY'S WING GRAIN.** A peculiar arrangement of dots used in stipple engraving. See also **AGAR'S GRAIN**, **COCKED HAT GRAIN**, **LEMON GRAIN** and **SMALL POX GRAIN**.
- CABINET OF PRINTS.** A collection of prints.
- CÆLAVIT.** Placed at the foot of a print meaning "engraved by."
- CAMAÏEU METHOD.** Chiaroscuro method (q.v.). 22.
- CANCELLED PLATE.** When the edition (q.v.) of a plate has been printed it is usually "cancelled" by drawing several heavy lines across it with a graver or drypoint.

CHALK METHOD or CHALK MANNER. A dot method of producing prints by the use of an irregularly dotted roller (Chalk Roll, q.v.) or roulette. It is used to reproduce the quality of a chalk drawing, hence its name. 29, 33, 34, 35.

CHALK ROLL. A form of roulette, the cutting surface of the wheel of which is irregularly grained. Used in making prints by the Chalk Method (q.v.).

CHANGED PLATES. See **ALTERED PLATES.**

CHAP BOOK. A small printed pamphlet, often illustrated with woodcuts, hawked by pedlars.

CHIAROSCURO METHOD. A method of reproducing prints in monochrome from two or three blocks, usually one for the outline (the key block), one for the shadows and one for the half-tones. The method was popular at the beginning of the 16th century in Italy and Germany. Also known as "Camaieu Method" and "Claro Oscuro." 22, 23, 26, 29.

CHROMOS. A term loosely applied to coloured reproductions of pictures usually reproduced by chromo-lithography (q.v.).

CHROMO-LITHOGRAPHY. Lithography in colours.

CHROMO-XYLOGRAPHY. Colour printing from wood blocks. See also **CHIAROSCURO METHOD** and **COLOUR BLOCK PRINTS.**

CLARO OBSCURO. Chiaroscuro print (q.v.). 22

CLEAN WIPED PROOF. A proof from an intaglio plate the surface of which has been wiped clean with the ball of the thumb and whiting. 26, 54, 58, 66, 82.

CLIPPED IMPRESSION. A print or impression the platemark (q.v.) of which has been cut away.

COCKED HAT GRAIN. An arrangement of dots in stipple engraving. See also **AGAR'S GRAIN**, **BUTTERFLY'S WING GRAIN**, **LEMON GRAIN** and **SMALL POX GRAIN.**

COCKING PUNCH. A punch with a rounded head used to beat down the surface of a plate where it is to be corrected. See **PUNCH.**

COLLECTOR'S MARK. The device or monogram of a collector written or stamped on a print that is or has been in his collection. Also called "Proprietor's Mark."

COLOUR BLOCK PRINT. A print in colour from relief blocks. 26, 49, 50.

COLOUR PRINT. Any print printed in colour. 21, 22, 23, 29, 30, 33, 34, 83, 84, 95, 100, 101.

COLOURED PRINT. Prints tinted by hand as in contradistinction to a **COLOUR PRINT** (q.v.) in which the colour is printed. 29, 33, 65, 66.

- COMPOSIT. Placed at the foot of a print meaning "designed by."
- COMPOUND BLOCK. A large wood block made up of a series of small blocks joined together. 21.
- COPPERPLATE ENGRAVING. A print produced from an engraved copperplate. 24, 25.
- COPPERPLATE PRESS. A press, resembling a household mangle, on which intaglio prints are printed. 18, 54, 92.
- CORNERED PRINT. A print on the back of which has been pasted at each corner a small square or triangle of stouter paper to protect the corners and prevent their turning up. See also EDGED PRINTS.
- COUNTERPROOF. An impression taken from another print by pressing a print on which the ink is still wet on to a piece of damped, clean paper. A counterproof is always in reverse. Also called "Offset." 100.
- CRADLE. Mezzotint Rocker. See ROCKER.
- CRAQUELÉ. The egg-shell appearance to machine rouletting in stipple engraving.
- CRAYON MANNER or METHOD. See CHALK METHOD.
- CREVÉ. A passage in an etched plate which refuses to hold sufficient ink, caused by the ridges of metal between close and intersecting lines being destroyed by the acid. In a proof, crevé prints as a grey spot.
- CRIBLÉ. A method of producing prints from blocks in which the design is carried out by a series of drilled holes. 20, 21.
- CROSS-HATCHING. A method of shading by means of lines crossing one another at varying angles. 20, 21, 53.
- CUT. A wood or linoleum cut.
- CUTTING BACK. When an artist wishes to end an engraved line bluntly (not tapering to a point), he does so by "cutting back." 54.
- D., DEL., DELIN., DELINEAVIT. Placed at the foot of a print meaning "drawn by."
- DABBER. A pad covered with silk or kid leather for laying an etching ground. A similar pad, made of worsted, is used to ink an intaglio plate. 18, 40, 54, 57, 61, 66, 74.
- DAMMING. The early method of building a wall or dam of wax round an etched plate preliminary to biting it. To-day the plate is usually placed in a porcelain or glass dish or bath (q.v.). 27.
- DES., DESIG. Placed at the foot of a print meaning "designed by."

DIAMOND POINT. A diamond set in a handle. Used sometimes with which to draw a drypoint on the plate. See also RUBY. 28, 67.

DIREX., DIREXIT. Placed at the foot of a print before the name of the master who directed the making of the print. It implies that the print is by a pupil or apprentice.

DITCHES. In relief processes the white spaces between black lines in a design. 18.

DIVULGAVIT. Placed at the foot of a print meaning "published by." See also EX and FORMIS.

DOLL. A bunch of rags for printing in the method "*à la poupée*."

DOTS. Small spots made with the point of a graver, drypoint, or punches, or bitten into a plate with acid, used in shading. See also DOTTED PRINT. 33, 34, 35, 89, 90.

DOTTED PRINT. A print in which the drawing is obtained by a series of dots in place of lines. Ger., Schrotblätter. Fr., Manière Criblée. 29, 33, 34, 35.

DOTTING PUNCH. A metal-pointed tool with which an engraver makes dots on a plate. The traditional tool of the map and chart engraver. 33, 34.

DROPPER. See PIPETTE.

DRYPOINT. A method of engraving on metal with a drypoint needle in place of a graver. The tool with which a drypoint engraving is made. A drypoint may also be made with a diamond or ruby point (q.v.). 26, 28, 31, 34, 35, 53, 57, 58, 67, 68, 69, 70.

DUST GROUND AQUATINT. An aquatint, the ground of which is laid by dusting on the plate powdered resin or similar substances, as opposed to Spirit Ground Aquatint (q.v.). 32, 75, 76, 77, 78, 79, 80, 82, 83, 89, 90.

DUSTING BOX. A box in which is placed the plate to be grounded with resin dust for aquatint. 32, 75.

DUTCH MORDANT or BATH. Dilute Hydrochloric Acid mixed with Chlorate of Potash, used for biting etchings and other bitten plates.

EBULLITION. The bubbling which takes place when a metal plate is subjected to acid. 57.

ÉCHOPPE. A thick needle cut off obliquely at the end used to obtain a "thick and thin" line in etching.

EDGED PRINT. A print along the back edges of which strips of paper have been pasted to add strength. See also CORNERED PRINT.

EDITION. The number of prints pulled from a plate or block.

EMBOSSING. See GAUFFRAGE and BLIND PRINTING.

END GRAIN. Cross Grain. A wood engraving is made on "end grain," a woodcut "on the plank" (q.v.). 20, 41, 42.

ENGINE. An instrument used for laying a mezzotint ground on a metal plate. 30.

"ENGLISH MANNER." A former synonym of mezzotinting, so called because the process was practised originally almost entirely by English artists.

ENGRAVING (Metal). Incising a design on a metal plate for the purpose of printing the design on paper. A print from an engraved plate. 26, 27, 28, 34, 58, 67, 74, 92.

ETCHER PRINTER. An artist who prints his own etchings.

ETCHING. Originally called "Aquafortis." Biting a design on a metal plate by the aid of acid for the purpose of printing the design on paper. A print from an etched plate. 24, 25, 26, 27, 28, 30, 31, 34, 54, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 70, 74, 88, 92, 100.

ETCHING GROUND. See **GROUND**.

ETCHING NEEDLE. See **NEEDLE**.

Ex, Exc, Excu, Excud, Excudit, Excudebat. Placed at the foot of a print meaning "published by." See also **DIVULGAVIT** and **FORMIS**.

EX-LIBRIS. A bookplate (q.v.).

EXTRA ILLUSTRATION. The insertion in books of appropriate additional illustrations from all possible sources. See **GRANGERISING**.

F, Fa, Fac, Fact, Fc, Fec, Fecit, Fect, Ft. Placed at the foot of a print meaning "made or executed by."

FALSE PROOF. A proof from a worn plate that has been reworked. A proof taken from a plate the inscription of which has been filled temporarily with some composition to prevent it printing. The conversion of a lettered impression into a proof by cutting off the margins and adding new margins and a false plate mark.

FEATHERING. In etching, a method of biting portions of a plate by the use of a few drops of acid on the grounded plate and controlling it with a feather.

FIGURAVIT. Placed at the foot of a print indicates that after the original composition of another artist a special drawing was made as the immediate basis of the print.

FINISHED STATE. Publication state. A plate ready for publication.

FLAT BITING. In etching, a method of submitting the plate only once to the acid and obtaining gradation of line by the use of needles of varying thicknesses.

FLAT PRINTING. In colour printing, to print in flat or uniform tones, as opposed to Gradation Printing (q.v.).

FLAT PUNCH. A metal tool with which an engraver hammers up from the back, for removal with a sharp scraper, a faulty passage in an engraved plate. See also PUNCH and KNOCKING UP.

FLICK. A short line used in shading an engraving. 33, 34.

FOLIO. See PORTFOLIO.

FOND SALE. A smearing on a print caused by the plate not being properly polished.

FORMIS. Placed at the foot of a print meaning "published by." See also Ex and DIVULGAVIT.

FOUL BITING. A series of irregular dots on an etched plate, caused by the wax ground imperfectly resisting the acid bath. Sometimes called "Pitting." 61, 62.

FOXING. Brown marks on paper, caused by damp.

FROTTON. A baren (q.v.).

GAUFFRAGE. Blind Printing. A term given to blind printing when applied to Japanese Colour Block Prints.

GELATINE DRYPOINT. A drypoint engraving (q.v.) in which a sheet of gelatine is used in place of a metal plate. A print from a gelatine drypoint plate. 28.

GELATINE TRANSFER. A method of transferring a design to a plate in white lines by the use of a sheet of gelatine or celluloid.

GENRE. Portrayal of scenes from ordinary, everyday life.

GLASS-PAPER MEZZOTINT. A mezzotint (q.v.) in which the ground is laid by impressing a piece of glass-paper against the surface of a metal plate, in contradistinction to laying it with a rocker (q.v.).

GLASS COLOURED PRINTS. A method much practised at the end of the seventeenth century of sticking prints face downwards on to glass, rubbing away all but a film of the paper from behind, and then colouring the back of the print by hand.

GLASS PRINTS. Prints produced like a photographic print on sensitized paper from a sheet of glass covered with an opaque varnish on which a design has been scratched. 27.

GRADATION PRINTING. In colour printing, to print in gradated or varying tones from a single block, as opposed to Flat Printing (q.v.). 50.

GRAIN. As applied to intaglio prints, a granulated surface which yields a tone when printed, as in stipple engraving or aquatint. In relief printing, the lines of fibre of the wood block. See **END GRAIN** and **PLANK, ON THE.** 98, 100, 101.

GRANGERISING. The insertion in a book of extra illustrations (q.v.) from all possible sources, much practised by the eighteenth century Dr. James Granger ; hence the term.

GRAVER. A small steel rod sharpened to a square or lozenge section. The chief tool of the engraver. Sometimes called "Burin." 20, 21, 26, 30, 41, 42, 53.

GRAVURE AU LAVIS. See **WASH ETCHING.**

GRAVURE EN TAILLE-DOUCE. The engraving of designs in intaglio lines that are to print dark.

GROUND. In etching, the waxy substance used to cover a metal plate on which the design is scratched. 28, 32, 33, 57, 61, 65, 75, 80, 89.

GROUND, HERKOMER'S WHITE. An etching ground (q.v.), invented by Hubert Herkomer, which, by the use of mutton fat and white grease paint, is light in colour and so enables the artist to see his design as he scratches it as dark lines on a light ground. Also called "Positive Process." 27, 85.

HATCHING, CROSS. See **CROSS HATCHING.**

HEATER. A metal appliance like an inverted box with a lamp or other heating agent under it, on which a plate is heated before laying a ground or printing from it. Also called "Plate Warmer."

HERKOMER'S WHITE GROUND. See **GROUND.**

IMP. Placed at the foot of a print meaning "printed by."

IMPRESSION. A print taken from an inked plate or block. See also **CLIPPED IMPRESSION.** 26, 37, 65, 100.

INC, INCI, INCID, INCIDEBAT, INCIDIT. Placed at the foot of a print meaning "engraved by."

INCUNABULA. Books printed before 1500.

INDIA PAPER. A soft, absorbent paper used for proofs of engravings. Imported from China.

INK DABBER. A pad of worsted which, when charged with ink, is dabbed on to a plate or block to ink it. See DABBER.

INK ROLLER. A leather, rubber or composition roller with which ink is rolled on to a relief block or plate to ink it. 30, 31, 38, 40, 48, 96, 100, 101.

INSCRIPTION. The engraved lettering, giving title, artist's, engraver's, and publisher's names at foot of a print.

INTAGLIO. Incised. An incised design. 16, 17, 18, 23, 24, 25, 29, 30, 34, 52 *et seq.* 62, 70.

INV, INVENIT, INVENTOR. Placed at the foot of a print meaning "designed or invented by."

JIGGER. An inverted wooden box the same height as the heater (q.v.) to which the heated plate is transferred for inking.

KEY BLOCK or PLATE. In colour block printing, the block or plate that contains the design, usually printed dark, to which the colour blocks register. 22, 23, 26, 29, 30, 100.

KNOCKING UP. A method of removing a faulty passage in an intaglio plate whereby the passage at fault is knocked up with a punch (q.v.) and hammer from the back, the surface then cut away with a scraper and finally polished with a burnisher.

LAI'D DOWN PRINT. A print that has been pasted down to a sheet of card or stout paper.

LAVIS. See WASH ETCHING.

LEMON GRAIN. A peculiar arrangement of dots used in stipple engraving. See also AGAR's GRAIN, COCKED HAT GRAIN, BUTTERFLY'S WING GRAIN and SMALL POX GRAIN.

LETTERPRESS PRESS. A printing press used to print letterpress and relief blocks. 18, 40, 45, 48.

LETTER PRINT. A print in which the lettered inscription under it is filled in solid. See also PROOF BEFORE LETTERS and OPEN LETTER PROOF.

LINE ENGRAVING. Engraving in line. Usually applied to engraving with a graver on metal. 22, 23, 24, 25, 29, 32, 53, 54, 55, 56, 57, 58.

LINES, ROTTEN. See ROTTEN LINES.

LINOLEUM BLOCK PRINTING. Printing from relief linoleum blocks. 23, 48.

LINOLEUM CUT. A print from a linoleum block. 23, 45, 46, 47, 48.

LITH DE. Placed at the foot of a lithograph meaning "printed by."

LITHOGRAPH. A print produced by lithography (q.v.). 16, 18, 19, 35, 86, 95, 96, 97, 98, 99, 100, 101, 102.

LITHOGRAPHIC PRESS. A special press on which lithographs are printed. 19, 96, 100.

LITHOGRAPHY. A method of producing prints from stone on which a design has been drawn in greasy chalk or ink. 95-102.

LITHOTINT. A lithographic process in which the design is drawn on the stone with crayon and light brush washes.

LOZENGE GRAVER. A lozenge-shaped graver formerly used by etchers.

LOZENGES. The white, diamond-shaped spaces between the black lines in cross-hatching (q.v.).

MACE HEAD TOOL. A punch with rounded head irregularly spiked, used in the making of prints in the crayon manner (q.v.). Also called "Mattoir."

MACHINE RULING. A mechanical method of ruling a series of parallel engraved lines. See also RULING MACHINE. 25, 54.

MACULATURE. The pulling of a second proof from an intaglio plate which has not been inked a second time, for the purpose of removing surplus ink from the sunk lines.

MAKING READY. See OVERLAYING and UNDERLAYING.

MANIÈRE ANGLAISE. A former synonym of stipple engraving, so called because the process was practised at one time almost entirely by English artists. 31.

MANIÈRE CRIBLÉE. A method of intaglio engraving, printed in such a way that the engraved lines print light on dark.

MANIÈRE NOIRE. Mezzotinting (q.v.).

MARGIN. The space of paper between the plate mark (q.v.) and the edge of the paper.

MASKED PROOF. A proof from a plate the inscription on which has been covered or masked with paper so as not to print.

MAT. The American term for mount (q.v.).

MATRIX. A mould. 23

MATTING PUNCH. A tool with a flattened head, lined and hatched like a file, used in making dotted prints (q.v.).

MATTING WHEEL. A form of roulette used in making plates in the crayon or chalk method (q.v.).

MATTOIR. See **MACE HEAD TOOL.**

MEZZOTINT. A tone method of intaglio engraving in which the surface of the plate is roughened uniformly with a rocker (q.v.) or similar "engine," and the lighter passages scraped away with a scraper. A print from a mezzotint plate. See also **MIXED MEZZOTINT.** 23, 29, 30, 31, 32, 34, 68, 71, 72, 73, 74, 75, 83, 96.

MEZZOTINT METHOD. The name applied to a method of lithography (q.v.) in which the scraper is used to scratch out the light passages.

MIXED METHODS. Print making in which more than one process is used on a single plate or block, *e.g.*, etching and drypoint combined.

MIXED MEZZOTINT. Mezzotint used in conjunction with other processes, such as engraving, etching or drypoint.

MONOTYPE. A print taken from a metal plate on which a design has been painted. Called monotype because it is possible to print only one impression. 33.

MORDANT. The acid used to bite an etching, aquatint, softground or sandgrain plate. 79, 85.

MOUNT. Thick paper or cardboard on which a print is mounted to facilitate handling and show to advantage. Also called "Mat."

MULLER. A stone or glass slab on which ink is ground. 96.

NATURAL PROOF. See **CLEAN WIPED PROOF.**

NATURE PRINTING. A combined printing and embossing process. 30.

NEEDLE, ETCHING. The point with which the etcher draws his design on the grounded metal plate. 27, 28, 57, 58, 65.

NIELLO. The earliest form of intaglio engraving. An engraving on metal the sunk lines of which are filled with a black composition. 23, 24, 67.

NUMBERING OF PROOFS. Numbers at the foot of a print telling the particular number of an impression and the number of proofs in an edition (q.v.).

OFFSET. See **COUNTERPROOF.**

OIL RUBBER. A roll of woollen material bound with string used with oil to rub down, clean or polish a metal plate.

ON THE PLANK. See **PLANK.**

OPEN LETTER PROOF. A proof from a plate where the lettered inscription below the print has been engraved only in outline. See also **PROOF BEFORE LETTERS** and **LETTER PROOF**.

OPUS INTERRASILE. Punch engraving. 33.

OPUS MALLEI. Prints produced from punched metal plates. 33, 34.

OPUS PUNCTILE. Punch engraving. 33.

ORIGINAL ENGRAVING. An engraving of an original design by the engraver, as opposed to engraving (called "Reproductive Engraving" [q.v.]) after the work of another artist.

ORIGINAL ETCHING. See **ORIGINAL ENGRAVING**.

OVAL POINT. A broad needle, oval in section, formerly used by etchers to obtain a line of varying thicknesses. Called also "Échoppe" (q.v.).

OVER-BITING. Biting the lines or tones of an intaglio plate too deeply.

OVERLAYING. In printing relief blocks, a method of bringing out certain parts of the design by laying sheets of paper at such places as need emphasis under the paper on which the proof is to be taken. See also **UNDERLAYING**. 40.

OXIDISING A PLATE. A method of making a plate black before grounding it by immersing it in a solution of sulphuret of potassium.

P, PICTOR, PINGEBAT, PINX, PINXIT, PINXT. Placed at the foot of a print meaning "painted by."

PAINTER ENGRAVER. See **ARTIST ENGRAVER**.

PAINTER ETCHER. An artist who etches his own designs, in contradistinction to a Reproductive Etcher.

PAPER MARK. See **WATERMARK**.

PAPER, TRANSFER. A paper grained to resemble stone, on which a drawing can be made in greasy chalk and afterwards transferred to a lithographic stone, which will yield proofs of the design. 35, 96.

PASTEL MANNER. A development of the chalk method (q.v.), in which a succession of plates is used to print the different colours to imitate a pastel drawing. 29.

PIPETTE. A small glass tube, pointed at one end, with a rubber bulb attached to the other. Used in etching to apply mordant locally.

PITTING. Foul Biting (q.v.). 61, 62, 75, 78.

PLATE PRINT. A relief print.

PLANK, ON THE. A term used in wood engraving implying "with the grain," as opposed to End Grain (q.v.). 20, 37, 45, 49.

PLANOGRAPHIC PRINTS. Prints, such as lithographs, printed from a flat surface, as opposed to those from relief or intaglio surfaces. 16, 17, 18, 19, 35, 95 *et seq.*

PLATE. A sheet of metal from which, when engraved, a design is printed. 65, 66, 67, 71, 74, 75, 76, 79, 80, 83, 84, 85, 86, 89, 90.

PLATE LINE. See PLATE MARK.

PLATE MARK. The indentation of paper formed at the edge of a print by the plate on being passed through the printing press. Also called "Plate Line." See also BEVEL. 17.

PLATE WARMER. See HEATER.

PLUG. A piece of wood inserted into an engraved wood block where an alteration is required.

PORTFOLIO. A case in which prints are kept.

POSITIVE PROCESS. See GROUND, HERKOMER'S WHITE.

POUPÉE. A bunch of rags or "doll" used for inking a plate. See also A LA POUPÉE.

PRENT. An early form of the word "print." 20.

PRESS. See COPPERPLATE PRESS, LETTERPRESS PRESS and LITHOGRAPHIC PRESS.

PRINT. Anything printed. A picture or design that is printed on paper. 80, 85, 86, 89, 90, 95.

PRIVATE PLATE. A plate engraved for a private individual, neither published nor for sale, such as a bookplate (q.v.).

PROCESSES, MIXED. See MIXED METHODS.

PROOF. An inked impression from a block or plate to "prove" its state. 57, 58, 70, 98, 100.

PROOF BEFORE LETTERS. A proof from a plate before the lettered inscription below it has been engraved. See also OPEN LETTER PROOF and LETTER PROOF.

PROOF, CLEAN WIPED. A proof from an intaglio plate the surface of which has been wiped clean.

PROOF, LAID DOWN. A proof that has been pasted down to a card.

PROOF, REMARQUE. A proof bearing a special mark in the margin. Often a *remarque* which appears in a trial proof is burnished out before the plate is published.

PROOF, RETROUSSAGED. See RETROUSSAGE.

PROOF, TRIAL. An early proof taken by the artist to test the progress of a plate or block. Also called "Artist's Proof." 62, 70.

PROPRIETOR'S MARK. See COLLECTOR'S MARK.

PUBLICATION STATE. See FINISHED STATE.

PUNCH. A tool for knocking up (q.v.) a plate that is to be corrected.

PUNCHING. See OPUS MALLEI.

RAG WIPE. A method of wiping an etched plate with a rag and not polishing the plate with the hand. The result is a thin film of ink over the whole of the print.

RE-BITING. Biting again an under-bitten plate.

REGISTER. In colour printing, the adjustment of one colour block with another so that the colours from each block drop into their right relationship on the finished print. 30, 49, 50, 65, 66, 100.

REGISTER MARKS. In colour printing, marks for controlling the position of the paper in printing to insure register (q.v.). 50, 100.

REGISTER PINS. Adjustable pins on the tympan (q.v.) of a letterpress printing press for controlling the position of the paper in printing colour prints from blocks.

RE-GROUNDING. Grounding a plate again preparatory to re-working.

RELIEF CUT. A print from a relief block. Also called "Plane Print."

RELIEF PRINTING. Printing from blocks or plates on which the design to be printed stands up in relief. See also SURFACE PRINTING. 21, 22, 23, 27, 29, 31, 35, 37 *et seq.*

RELIEVO. Relief. 16, 17, 18.

REMARQUE PROOF. See PROOF, REMARQUE.

REPRODUCTIVE ENGRAVER. An engraver who engraves the work of another, in contradistinction to one who engraves his own design. See ARTIST ENGRAVER, PAINTER ETCHER.

REPRODUCTIVE ETCHER. See REPRODUCTIVE ENGRAVER.

RE-STRIKE. A proof from an old plate, printed after the original edition is exhausted.

RETROUSSAGE. A method of inking an intaglio plate whereby the ink, after it has been forced into the lines with the dabber (q.v.), is lightly coaxed out again ("turned up") with a muslin rag, the lines thus printing richer than if clean wiped (q.v.). 56, 58, 70, 82, 88, 92.

REVERSED PROOF. A proof taken by pressing a sheet of dampened paper against a still wet proof. Used by an artist as a guide for making alterations.

RING PUNCH. A tool, with a hollow circular head, often used by niellists.

ROCKER. The instrument or "engine" with which a mezzotint ground is laid. Also called a "Cradle." 31, 71, 72.

ROLLER. See **INK ROLLER.**

ROTTEN LINES. Etched lines that are not continuous, caused by the etcher not having driven his needle evenly through the ground. 61.

ROULETTE. A tool with a revolving, circular head, which is granulated. Used to draw a dotted line on a plate. 30, 31, 33, 34, 35.

ROULETTE METHOD. A plate produced by the use of a roulette in place of an etching needle or graver. 29, 34, 35.

RUBBER, OIL. See **OIL RUBBER.**

RUBY POINT. A tool, consisting of a pointed ruby in a handle, for use in place of a dry-point (q.v.). See also **DIAMOND POINT.** 28, 67.

RULING MACHINE. A machine for producing a flat engraved tone on a metal plate by a series of mechanically ruled parallel lines. See also **MACHINE RULING.** 31.

S, SC, SCUL, SCULP, SCULPEBAT, SCULPSIT, SCULPTOR. Placed at the foot of a print meaning "engraved by."

SANDGRAIN. A method of obtaining a tone on an intaglio plate by passing a grounded plate and a sheet of sandpaper, placed face to face, through a press and subsequently biting the plate with acid. 72, 89, 90, 91, 92.

SANDPAPER PRINT. A form of mezzotint where the ground is laid by pressing sandpaper on to the surface of a plate, in place of laying a mezzotint ground with a rocker (q.v.) or engine (q.v.).

SCOOPER. A scorper (q.v.).

SCORPER. A species of graver (q.v.). Also called "Scooper." 41, 42.

SCRAPER. A tool of triangular section with three sharp edges used to remove the burr (q.v.) of a drypoint or mezzotint and with which to make corrections on an intaglio plate. 30, 31, 32, 35, 41, 53, 71, 79, 96.

SIGNATURE. The artist's autograph at the foot of a print. Nearly always in pencil.

SILVER-POINT. A drawing with a silver-point or stylus on paper which has been coated with chinese white.

SMALL-POX GRAIN. A peculiar arrangement of dots used in stipple engraving. See also **AGAR'S GRAIN**, **COCKED HAT GRAIN**, **BUTTERFLY'S WING GRAIN** and **LEMON GRAIN**.

SMUDGE. Ink left on the surface of a plate.

SOFT GROUND. A method of etching in imitation of the texture of pencil or chalk. 17, 28, 30, 85, 86, 87, 88, 96, 98.

SOLANDER BOX. A box in which prints are stored.

SPATTER WORK. In lithography a method of obtaining a tone by spattering ink on the stone.

SPIRIT GROUND AQUATINT. A tone intaglio process in which a plate is covered with a solution of resin dissolved in spirits of wine and, when dry, bitten. Compare **DUST GROUND AQUATINT**. 32, 79, 80, 81, 82, 83, 89, 90.

SPRAYED GROUND ETCHING. An aquatint method in which the ground is laid by spraying liquid etching ground on the surface of the plate. Much used in America. 33.

SQUARE GRAVER. A graver with a square section.

STATES. Stages of relative completeness of a plate. Every addition to or reworking of a plate constitutes a new state. Different methods of inking and printing a plate do not make a new state.

STEEL ENGRAVING. An engraving on steel. Many so-called steel engravings are etchings in imitation of engraving. 25, 54.

STEEL FACING. The hardening of the surface of a copper or zinc plate by electrically depositing a film of steel on its surface after it has been engraved, thus enabling a larger edition of prints to be taken. 25, 27, 28, 32, 62, 70.

STEREOTYPE. A plate cast from a papier mâché or other mould.

STIPPLE ENGRAVING. A method of engraving by means of a series of dots and flicks in place of lines. 29, 30, 31, 33, 34, 35.

STOPPING OUT. Covering with varnish a passage in a half-bitten plate to prevent it biting deeper. 32, 57, 65, 75, 79, 83, 89.

STOPPING OUT VARNISH. The varnish used for stopping out (q.v.). 27, 57, 62, 65, 75, 76, 79, 89.

SULPHURS. Casts in sulphur from niello (q.v.) plates. 23.

SULPHUR TINT. A method of tinting passages of a plate by corroding them with sulphur.
See also ACID TINT and SANDGRAIN.

SUNK MOUNT. See MOUNT.

SURFACE PRINTING. Relief printing (q.v.).

TABLE EASEL. A small wooden easel on which to display prints.

TELLTALE. A test plate. A piece of metal plate with which the etcher tests the strength of his acid. Also called "Test Plate."

TEST PLATE. See TELLTALE.

THREADING TOOL. A form of graver (q.v.) threaded on its lower surface to facilitate the engraving of parallel lines.

TINT PRINTING. See LITHOTINT.

TINT TOOL. A form of graver (q.v.) used, more especially by wood engravers, to cut a series of fine lines to make up a tint or tone.

TIPPED PRINT. A print that has been pasted to a thick sheet of paper or card along its top edge only.

TONE PROCESSES. Processes, such as aquatint and mezzotint, where the design is obtained by tones instead of lines.

TOUCHED PROOF. A proof, touched up by the artist, to indicate portions that are to be reduced or strengthened on the plate. See also WORKING PROOF.

TRANSFER PAPER. See PAPER, TRANSFER.

TRIAL PROOF. See PROOF, TRIAL.

TYMPAN. On a letterpress press, a stretched piece of vellum or canvas, on which the sheet of paper to be printed is placed. 100.

UNDER-BITING. Biting the lines or tones of an intaglio plate too lightly.

UNDERLAYING. In printing relief blocks, a method of bringing out certain parts of the design by laying sheets of paper under those parts of the block to be emphasised.

UNIQUE PROOF. The only existing proof from a plate.

VIAL PROCESS. A process of relief etching on steel in which the design is first drawn in lithographic chalk. Invented by Bracquemond.

WASH ETCHING. Aquatint. A method of roughening the surface of a plate by brushing it with acid, so as to obtain a tone when printed.

WASHING OUT. The removal of the black work from the stone before rolling up, in colour lithography. 101.

WATERLEAF. An unsized paper, chiefly used for mezzotint printing. 74.

WATERMARK. A faint design seen in some paper when held to the light, indicating maker, quality, date, size of paper, etc. Also called "Papermark."

WATER OF AYR STONE. A kind of slate used for polishing a lithographic stone. 96.

WHITE FACE. A proof from an engraved portrait plate where the face has been left blank.

WHITE GROUND. See **GROUND**.

WHITE LINE. A method of wood engraving in which the design is cut in white lines on a black ground. 20, 41.

WOODCUT. A wood engraving cut with a knife on the plank (q.v.). Compare **WOOD ENGRAVING**. 17, 19, 20, 21, 22, 37, 38, 39, 40, 41, 45, 48.

WOOD ENGRAVING. A relief method of engraving on the end grain (q.v.) of wood, using graver and gouges. Compare **WOODCUT**. 17, 23, 41, 42, 43, 44, 48.

WORKING PROOF. A trial proof (q.v.) with additions in pen, pencil, wash, etc., from which the engraver works. See also **TOUCHED PROOF**.

XYLO-CHIROGRAPHS. Handwritten books illustrated with woodcut illustrations. 20.

XYLOGRAPHY. Wood engraving.

FRENCH TERMS

By GEORGE NICHOLSON & GILBERT ALLISÉ

<i>English</i>	<i>French</i>
Aquatint	Aquatinte
Artist Engraver	L'artiste graveur
Artist's Proof	Epreuve de l'artiste
Biting	Morsure
Block	Bloc
Block Cutter	Coupeur de blocs
Burr	Barbes
Chromo	Chromo
Clean Wiped Proof	Epreuve de plaque bien nettoyée
Collector's Mark	Marque du collectionneur
Colour Print	Gravure en couleur
Colour Block Print	Impression du bloc colorié
Copperplate Engraving	Gravure sur cuivre
Counterproof	Contre-épreuve
Cross-hatching	Hachures en croix
Cut	Coupe
Drypoint	Pointe sèche
Dust Ground Aquatint	Fond d'aquatinte à la poussière
Edition	Edition
End Grain	Bois debout
Engraving	Gravure
Etcher Printer	Imprimeur-graveur à l'eau forte
Etching	Eau forte
False Proof	Fausse épreuve
Foul Biting	Mauvaise morsure
Glasspaper Mezzotint	Mezzotinto au papier de verre
Graver	Burin
Impression	Impression
India Paper	Papier des Indes
Inscription	Inscription
Intaglio	Intaille
Key Block	Planche ou bloc du trait
Letter Print	Impression de lettre

<i>English</i>	<i>French</i>
Line Engraving	Gravure au trait
Linoleum Block Printing	L'art d'imprimer sur un bloc de linoleum
Linoleum Cut	Gravure sur linoleum
Lithograph	Lithographe
Lithography	Lithographie
Lithotint	Lithotinte
Machine Ruling	Tracage à la machine
Margin	Marge
Masked Proof	Epreuve voilée
Mezzotint	Mezzotinto
Monotype	Monotype
Mordant	Mordant
Mounts	Passe-partout
Natural Proof	Epreuve ordinaire
Offset	Compensation
On the Plank	Sur la planche
Open Letter Proof	Epreuve à lettres ouvertes
Over Biting	Morsure trop profonde
Overlaying	En mettant dessus
Painter Engraver	Peintre graveur
Painter Etcher	Peintre graveur à l'eau forte
Papermark	Filigrane
Pitting	Criblage
Plane Proof	Epreuve plane
Planographic Print	Impression planographique
Plate	Plaque
Plate Mark	Marque de la plaque
Portfolio	Portefeuille
Press	Presse
Print	Impression (Gravure)
Proof	Epreuve
Proof before Letters	Epreuve d'avant les lettres
Remarque Proof	Epreuve remarque
Rag Wipe	Coup de torchon
Rebiting	Nouvelle morsure
Register	Registre

<i>English</i>	<i>French</i>
Register Mark	Marque de registre
Relief Cut	Coupures en relief
Relief Printing	Gravure ou Empreinte en relief
Relievo	En relief
Reproductive Engraver	Graveur reproducteur
Retroussage	Retroussage
Reversed Proof	Epreuve renversée
Roulette Method	Méthode de la roulette
Sandgrain	Grain du sable
Sandpaper Print	Impression de papier au sable
Signature	Signature
Silver Point	Pointe d'argent
Soft Ground	Fond mou
Solander Box	Boite Solander
Spatter Work	Travail d'éclaboussures
Spirit Ground Aquatint	Aquatinte au fond d'alcool
Sprayed Ground Etching	Eau forte au fond passé au vaporisateur
State	Etat
Steel Engraving	Gravure sur acier
Steel Facing	Plaqué d'acier
Stereotype	Stéréotype
Stipple Engraving	Gravure pointillée
Stopping Out	Bouchage
Sulphur Tint	Passé au soufre
Surface Printing	Impression de surface
Trial Proof	Epreuve d'essai
Under Bitten	Pas assez mordue
Underlaying	En mettant dessous
Water Mark	Filigrane
Woodcut	Gravure sur bois
Wood Engraving	Graver sur bois (l'art de)
Working Proof	Epreuve de travail
Xylography	Xilographie

GERMAN TERMS

By ALBERT W. C. FROST

<i>English</i>	<i>German</i>
Aquatint	Die Aquatintamanier
Artist Engraver	Der Graveurkuenstler
Artist's Proof	Der Kuenstlerdruck
Biting	Das Aetzen
Block	Der Block
Block Cutter	Der Grabstichler
Bookplate	Das Buecheretikett
Burr	Die rauhe Metallkante
Chromo	Die Chromolithographie
Clean Wiped Proof	Die Abwischkorrektur
Collector's Mark	Die Sammlermark
Colour Print	Der Farbendruck
Colour Block Print	Der Farbenholzdruck
Copperplate Engraving	Der Kupferstich
Counterproof	Der Gegenabdruck
Cross Hatching	Die Kreuzschraffierung
Cut	Der Schnitt
Drypoint	Die trockene Radiernadel
Dust Ground Aquatint	Die Staubgrund-Aquatintamanier
Edition	Die Auflage
End Grain	Das Marmorieren
Engraving	Der Stich
Etcher Printer	Der Radierdrucker
Etching	Die Radierung
False Proof	Die Fehlkorrektur
Foul Biting	Das Fehlaetzen
Glasspaper Mezzotint	Die Glaspapier-Schabmanier
Graver	Der Bildstecher
Impression	Der Abdruck
India Paper	Das chinesische Papier
Inscription	Die Inschrift
Intaglio	Der Intaglio (geschnittener Stein)
Key Block	Der Schluesselblock

English

Laid Down Print
Line Engraving
Linoleum Block Printing
Linoleum Cut
Lithograph
Lithography
Lithotint
Machine Ruling
Margin
Masked Proof
Mezzotint
Mordant
Mounts
Natural Proof
Offset
On the Plank
Open Letter Proof
Over Biting
Overlaying
Painter Engraver
Painter Etcher
Papermarks
Pitting
Plane-Proof
Planographic Prints
Plate
Plate Mark
Portfolio
Press
Print
Proof
Proof before Letters
Rag Wipe
Rebiting
Register
Register Marks

German

Die niedergelegten Drücke
Der Linierstich
Linoleum-Steindruck
Linoleumschnitt
Der Lithograph
Die Lithographie
Die Farbenlithographie
Das Maschinenliniieren
Der Rand
Die Maskenkorrektur
Der Schabemanierdruck
Die Beize
Die Einfassungen
Die Naturkorrektur
Die Offsetmanier (Gegendruck)
Auf der Planke
Der offene Briefabzug
Das Ueberaetzen
Das Ueberziehen
Der Graviermaler
Der Radiermaler
Die Wasserzeichen
Das Vernarben
Die Planierabzuege
Die planographischen Abdruecke
Die Platte
Das Plattenzeichen
Das Portefeuille
Die Presse
Der Abdruck
Die Korrektur
Der Abzug vor der Schrift
Der Lappenabwisch
Das Wiederaetzen
Die Zeilengleichheit
Die Zeilengleichheitszeichen

<i>English</i>	<i>German</i>
Relief Cut	Der Reliefschnitt
Relief Printing	Das Reliefdrucken
Relievo	Das Relief
Remarque Print	Die Revisionskorrektur
Reproductive Engraver	Der Reproduktivgraveur
Restrike	Das Neuabdrucken
Retroussage	Die Retroussage
Reversed Proof	Die umgekehrte Korrektur
Roulette Method	Die Durchstichmanier
Sandgrain	Der Sandstrich
Sandpaper Print	Der Sandpapierdruck
Signature	Die Signatur
Silver Point	Die Silberradiernadel
Soft Ground	Der sanfte Grund
Solander Box	Der Solander Kasten
Spatter Work	Die Spritzmalerei
Spirit Ground Aquatint	Die Aquatinta mit Spiritusgrund
Sprayed Ground Etching	Die Radierung mit Spruehgrund
State	Der Zustand
Steel Engraving	Der Stahlstich
Steel Facing	Mit Stahl beschlagen
Stereotype	Die Stereotypie
Stipple Engraving	Der Punktirstich
Stopping Out	Das Interpunktiren
Sulphur Tint	Die Schwefelfarbe
Surface Printing	Der Haut-Relief-walzendruck
Trial Proof	{ Die Schleppkorrektur
	{ Der Probeabzug
Under Bitten	Zu wenig geätzt
Underlaying	Zu wenig gewaschen
Water Mark	Das Wasserzeichen
Woodcut	Der Holzschnitt
Wood Engraving	Die Holzschneidekunst
Working Proof	Der Betriebsbogen
Xylography	Die Holzschneidekunst

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